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ABSTRACT

A project was conducted to assess and improve existing field experiences to prepare future industrial arts teachers in Texas. The following activities were accomplished during the project: determination of current field experiences available to industrial arts preparation students in Texas schools; identification of model industrial arts teacher preparation and materials in other states; identification, through a modified Delphi technique, of field experience elements as recommended by teacher educators and industrial arts classroom teachers; and development of a guidebook for use in implementing model field experiences in industrial arts teacher preparation programs. Information from the research conducted during the project was incorporated into a set of recommendations for improving the following aspects of industrial arts teacher education in the State: academic requirements, student teaching assignments, supervising teachers, university curricula, university supervisors, classroom supervising teachers, student teachers, and the public school environment. (Appendixes, which make up the greater part of this report, include a master list of teacher evaluation indicators, three drafts of the instrument used to assess model industrial technology field experience programs, lists of the 15 Texas schools with industrial technology teacher preparation programs and model programs identified through the nation, various project related correspondence, the three rounds of Delphi questionnaires, and quarterly project reports.) (MN)

ED266255

FINAL REPORT

Project No. 84-178

Assessment of Industrial Arts Field Experiences

A Research Project in
Vocational Education

Conducted Under
Public Law 94-482, Title II

Funded by the
Research Coordinating Unit
Department of Occupational Education and Technology
Texas Education Agency

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Michael R. Kozak
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North Texas State University
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Admission to North Texas State University and any of its sponsored programs is open to qualified individuals regardless of race, color, religion, sex, national origin or educationally-unrelated handicaps.

ACKNOWLEDGMENTS

Three groups provided direction for this project. The Advisory Committee consisted of Joe Alford, Tommy Barker, Lloyd Carter, Ed Faulkner, Frank Keeney, Kenneth Sloan, and Ernest Vanbebber.

The thirteen members of the Delphi Panel included: Keith Blankenbaker, Fred Blount, Vaughn Croft, William E. Dugger, Niel A. Edmunds, Bill Forkner, Lloyd Gober, Larry Kuskie, James C. Leeth, Les Litherland, Nedom C. Muns, Jim Payne, and Steve Price.

The Material Validation and Review Committee included: Neil Ballard, Marty Barbieri, Donna Cunningham, Nelda Evarts, Ron McQueen, James L. Poirot, Paul Schlieve and Judy Stewart.

Secretarial staff consisted of Millicent Jones, Salesta McAvoy and Rebecca Millican. Without their dedication, it would have been impossible to produce the required materials during the project.

Last but certainly not least, appreciation is also expressed to: Paul W. Lindsey, Associate Commissioner for Occupational Education and Technology; Luther W. Thompson, Jr., Director, Occupational Administrative Services; Dan Bristow, Director, Research Coordinating Unit; and Patricia F. Lindley, Educational Program Director.

The results of the project will hopefully have considerable impact on the industrial technology* teaching profession in the state of Texas. The Final Report and the Guide Book are to be distributed to the Research Coordinating Unit, members of the Advisory Committee, members of the Delphi Panel, and members of the Material Validation and Review Committee. Copies of the Guide Book will be forwarded to individuals responsible for the supervision of industrial technology field experiences at each of the fifteen Texas institutions that have such teacher training programs. The Final Report and the Guide Book will also be cross referenced in the ERIC system.

Phillip R. Foster
Michael R. Kozak

*"Industrial technology" is substituted for "industrial arts" throughout this report, whenever possible. This reflects a national trend.

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CHAPTER I
PROJECT FORMAT

A proposal entitled "Assessment of Industrial Arts Field Experiences" (Project No. 84-178) was submitted to the Texas Education Agency (TEA) on April 25, 1984. The listed project co-directors were to be Phillip R. Foster and Michael R. Kozak. The co-directors are faculty members in the Division of Industrial Technology at North Texas State University. The grant was awarded on August 22, 1984.

Project activities were designed to emphasize contemporary topical information with reference to industrial technology field experiences; to acquire knowledgeable, experienced personnel for each of the three committees specified by the organization of the project; and to develop a Guide Book to be utilized in industrial technology teacher training programs throughout the state.

Objectives

The major objectives as stated in the proposal, to be accomplished through the project were:

1. development of a Guide Book for implementation of model field experiences in industrial arts teacher preparation programs;

2. determination of current field experiences available to industrial arts preparation students in Texas school;

3. identification of model industrial arts teacher preparation and materials in other states; and

4. identification, through modified Delphi technique, of field experience elements as recommended by teacher educators and industrial arts classroom teachers.

Procedures

Project activities were to be categorized into four major phases: I. Identification of Required Personnel; II. Determination of Current Field Experiences Available; III. Determination of Characteristics of a

Model Program; and IV. Generation and Validation of a Guide Book (See Figure 1).

PHASE I. Identification of Required Personnel: Project co-directors in conjunction with the TEA staff were to select the members of the Advisory Committee. The Advisory Committee was to consist of nine individuals representing both the industrial and the educational communities. The six industry representatives were to be chosen from the following areas: Visual Communication Industry, Computer Industry, Energy Industry, Production Industry (Manufacturing and Construction) and Government (a segment that employs industrial personnel).

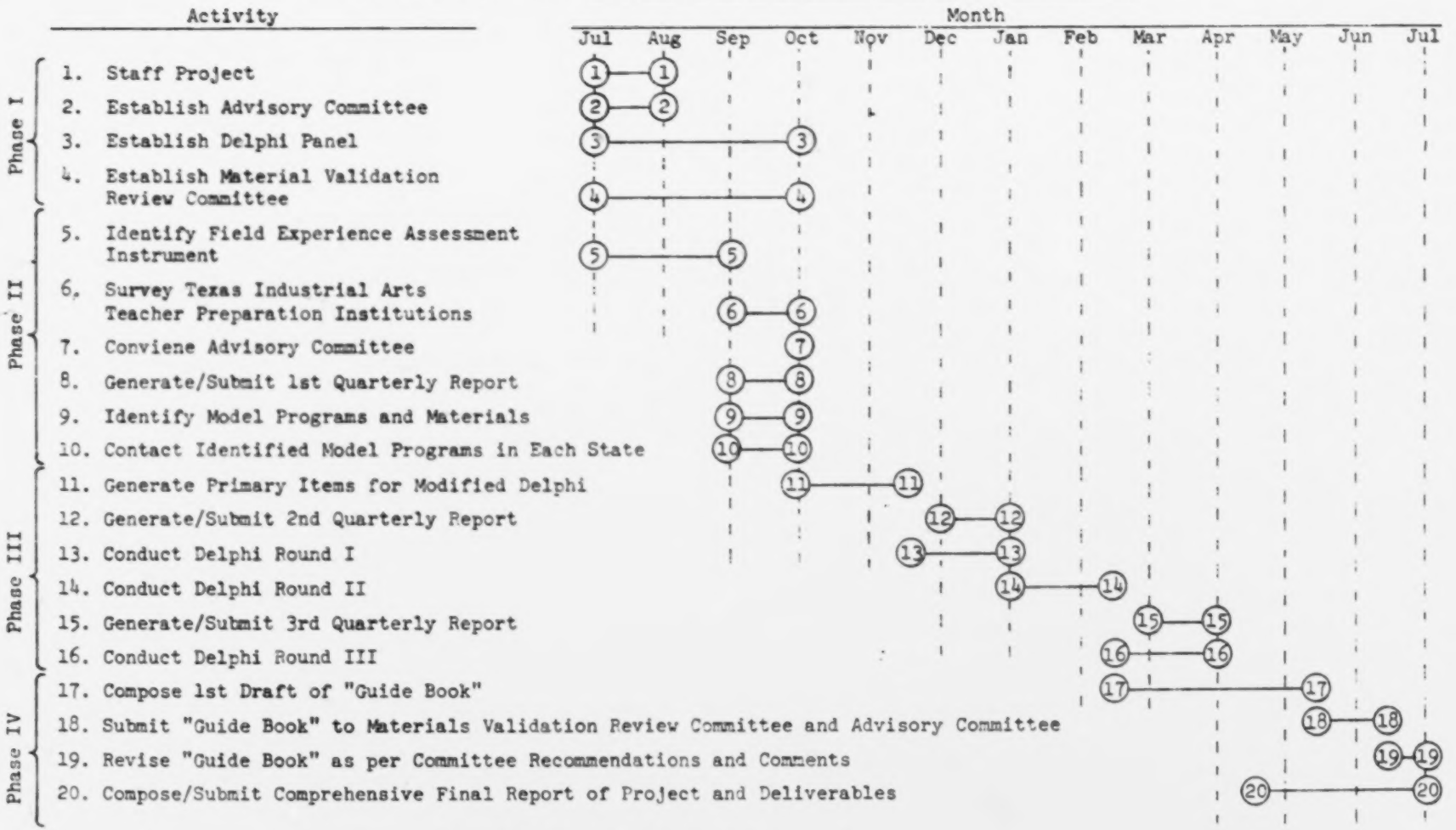
The three education representatives were to be selected, one each, from the membership of the Texas Council on Industrial Arts Teacher Education (TCIATE), the Texas Industrial Arts Association (TIAA), and the Texas Council of Industrial Arts Supervisors (TCIAS).

A Delphi Panel of experts was also to be identified. The delphi panel was to consist of fourteen members with the membership to be drawn from individuals representing teacher education and industrial technology classroom teachers. Representation was to be based on the following:

1. Teacher Education representatives (7)
   a) Industrial technology field experience directors from 15 Texas schools - randomly select 3
   b) Current or most recent teacher educator from the vice president post within the Industrial Arts Division of the American Vocational Association - select 1
   c) Current or most recent teacher educator from the president post of International Technology Education Association - select 1
   d) Teacher educators from the pool of model programs identified in the project - randomly select 2; and,
2. Industrial Technology Classroom Teacher Representatives (7)
   a) Current or most recent classroom teacher from the president post of International Technology Education Association - select 1
   b) Current or most recent classroom teacher from the vice president post within the Industrial Arts Division of the American Vocational Association - select 1

Figure 1

Timing & Phasing Chart: Assessment of Industrial Arts Field Experiences



Phase I: Identification of Required Personnel
Phase II: Determination of Current Field Experiences Available
Phase III: Determination of Characteristics of a Model Program
Phase IV: Generation and Validation of "Guide Book"

BEST COPY AVAILABLE

c) Most recent past recipient, classroom teacher, of the "TIAA Outstanding Teacher Award" - select 3
d) Most recent past recipient of the "Outstanding American Industrial Arts Student Association Student Chapter Advisor Award" - select 2 (one each from levels 1&2).

The final activity in Phase I of the project was to be the identification of individuals to staff the Materials Validation and Review Committee. The function of the committee was to be the review of the Guide Book. The eight committee members were to be selected on the following basis:

1. 19 TAC Chapter 75 Curriculum representation (2)
   a) TIAA - select 1
   b) State Director of Industrial Arts (TEA);
2. Special Needs Representation (2);
3. Equal Access Representation (2); and,
4. Computer Application (2).

PHASE II. Determination of Current Field Experiences Available: Two computer searches were to be conducted in an attempt to locate extant field experiences assessment instruments. The assessment instrument was to be sent to the fifteen industrial technology teacher education programs in Texas.

Concurrently, state department of education level directors of industrial technology or their equivalent, in each state were to be asked to submit up to three programs which they believed to be model. Administrators of those identified model programs were to be requested to complete the assessment instrument.

PHASE III. Determination of Characteristics of a Model Program: Activities in Phase III were to result in the identification of statements which characterize model field experience programs for industrial technology student teachers. This was to be accomplished through use of a modified delphi technique. The initial activity in this phase was to be the generation of primary items that were to be utilized in the first delphi round. A second computer search was to render these statements. The Advisory Committee was to review the list of statements and make deletions and suggestions. The list was then to be sent to the administrators of the previously identified model programs in all fifty states. These administrators were to review and modify the list.

This initial listing was to consist of succinct, single thought statements which were to form the basis for the first delphi round. Delphi panelists were to be asked to review the statements, make suggestions, and return the statements which were then to be edited and categorized. The round two delphi mailing was to be forwarded to the panelists with instructions to rate the individual statements on a scale to be provided. Upon return of the second round, statement means were to be calculated; mean ratings and individual panelist's rating of statements were to be recorded on the round three delphi mailing.

The third delphi mailing was to be forwarded to the panelists with instructions to review ratings based on their previous rating and the group mean ratings. Upon return of the responses, means were to be recalculated and statements with mean ratings below 4.00 were to be deleted from the subsequent phases of the project. The remaining statements were to be considered characteristic of a model field experience program in industrial arts education.

PHASE IV. Generation and Validation of the Guide Book: A working draft of the Guide Book was to be developed. It was to contain the following materials:

1. preliminary pages describing the significance, development, and use of the publication; and,
2. suggested methods for upgrading Texas teacher preparation programs based on the requirements of 19 TAC Chapter 75 Curriculum, special needs considerations, equal access provisions and appropriate computer applications.

Concurrently, the draft of the Guide Book was to be submitted to the Advisory Committee for their recommendations and to the Material Validation and Review Committee for their input. The draft of the Guide Book was to be subsequently revised and submitted at the termination of the contract period.

Specific Results To Be Produced

Quarterly reports on the status and the progress of the project were to be made until the conclusion of the contract period. At that point, a comprehensive final report was to be made to the Texas Education Agency. The report was to include: 1) a summary of the accomplishments of the project; 2) a review of the

procedures utilized to accomplish the objectives of the project including the results of the delphi portion of the project; 3) a list of specified produced results; and 4) discussion of potential utilization of the results. In addition, a major portion of the research project was to be the development of the Industrial Technology Field Experiences Guide Book. Ten copies of the Guide Book plus 100 copies of the comprehensive Final Report were to be mailed to the Texas Education Agency. Additionally, one copy of the Guide Book was to be mailed to each member of: the project Advisory Committee, the Delphi Panel, the Material Validation and Review Committee, and the individual responsible for the supervision of industrial technology field experiences at each of the fifteen Texas institutions with teacher preparation programs in industrial technology.

Potential Utilization Of The Results

Through the use of the Guide Book, individuals at each of the fifteen Texas colleges and universities that offer industrial technology teacher education programs were to be able to compare elements of their current industrial technology field experiences with those of a model program recommended by industrial technology teachers and teacher educators. Additionally, Texas Education Agency personnel, utilizing the report of the project were to be able to:

1. compare elements of a current industrial technology field experience at any institution to those of the model programs throughout the United States;
2. compare elements of a current industrial technology field experience at any institution to those of other industrial technology teacher education institution in Texas;
3. compare elements of a current industrial technology field experience at any one institution to those of a model program recommended by industrial technology teachers and teacher educators; and,
4. make any necessary recommendations for improvement of the field experience of any industrial technology education program.

The description of the potential utilization of the results of the project indicates the probability that the results will be applicable to a substantial number of classroom or other learning situations within five

years of the termination of the activities described in this proposal.

Evaluation Design

A continuous evaluation system was to be in effect throughout the development of the project; continual evaluation was to be an integral part of the project. Each important step of the project was to include one or more evaluation steps:

1. the recommended members of the Advisory Committee were to be approved by the Texas Education Agency;
2. the recommended members of the Delphi Panel were to be approved by the Advisory Committee;
3. the recommended members of the Material Validation and Review Committee were to be approved by the Advisory Committee;
4. the Industrial Arts Field Experience Assessment Survey Instrument was to be analyzed by the Advisory Committee before distribution;
5. the Characteristics of a Model Industrial Arts Field Experience Survey Instrument was to be analyzed first by the Advisory Committee and the administrators of the identified model programs throughout the United States prior to submission to the Delphi Panel; and,
6. the Industrial Technology Field Experience Guide Book was to be analyzed by both the Advisory Committee and the Material Validation and Review Committee to ensure its concurrence with the requirements of 19 TAC Chapter 75 Curriculum. Other areas of concern to be analyzed were: the incorporation of methods for use with special needs students, the incorporation of methods for providing equal access and the incorporation of appropriate computer applications.

Personnel

The project was to be co-directed by Dr. Michael Kozak and Dr. Phillip Foster. The co-directors are assistant professors in the Division of Industrial Technology at North Texas State University. The budget indicated the percentage of time Drs. Kozak and Foster were to be released from teaching responsibilities in order to conduct project activities.

Dr. Kozak is Graduate Program Coordinator of the Division of Industrial Technology and has completed his fifth year at North Texas State University. He has nine years of public school teaching experience, twelve years in higher education, and he has served as the Coordinator of the Teacher Education Program of the Division of Industrial Technology since September 1984. Dr. Kozak holds a B.S. degree and a M.Ed. degree from California University of Pennsylvania and an Ed.D degree from Texas A&M University.

Dr. Foster has taken part in the field testing of numerous commercially-produced vocational-technical curriculum resources as the result of funded projects solicted by the Maryland State Department of Education, Division of Vocational and Technical Education. He has served in a variety of capacities ranging from research assistant to project director. He has designed and implemented field tests for resources designed for bilingual, handicapped, and disadvantaged vocational students. Dr. Foster has authored several technical curriculum resources resulting from funded projects. He designed and organized an apprenticeship related instruction program for the machinist and maintenance trades. The program is considered to be a model program in the state of Maryland and services over 150 apprentices from 15 different private industries and federal agencies in the metropolitan Washington D.C. area. Dr. Foster's master thesis and doctoral dissertation utilized the delphi technique to collect data descriptive of vocational/technical education programs. In 1984, Dr. Foster served as co-director of a Faculty Research Grant, funded by North Texas State University, which utilized the delphi technique to establish criteria descriptive of the technologically literate individual.

Facilities, Equipment, Materials and Supplies

The physical facilities of the College of Education at North Texas State University were to be utilized to office the project. Office furniture, machinery and instructional equipment were to be furnished by the University as well. North Texas State University was to provide basic printing and duplication equipment for the project through its campus copy center and the office in the Division of Industrial Technology. The cost for these services was reflected in the budget section.

CHAPTER II
REVIEW OF PROCEDURES USED IN PROJECT

Identification of Staff

Upon notification by the Texas Education Agency (TEA) of the acceptance of the project, secondary personnel (secretary and research assistant) were identified and secured. Millicent Jones worked as secretary from September until she left school in December. At that time Salesta McAvoy was hired and she worked as secretary until the termination of the contract. Gene R. Price served as research assistant on the contract.

After secondary personnel were secured, the Advisory Committee members were selected by the staff co-directors in conjunction with the TEA staff. Equity representation was important to the composition of the Advisory Committee, and care was exercised in selecting committee members from both the industrial and the educational communities. Industry representatives were drawn from the Visual Communication Industry, the Computer Industry, the Energy Industry, the Production Industry, (Manufacturing and Construction) and from Government (a segment that employs industrial personnel). The education representatives were selected from the membership of The Texas Council on Industrial Arts Teacher Education (TCIATE), the Texas Industrial Arts Association (TIAA), and the Texas Council of Industrial Arts Supervisors (TCIAS). Members of the committee were:

Industry

Visual Communication Industry

Frank Keeney
Vice President, Administration
Graphic Arts, Inc.
Dallas, Texas

Computer Industry

Kenneth Sloan
Vice President, Marketing
Applied Data Research, Inc.
Dallas, Texas

Energy Industry

Ernest Vanbebber
Public Utility Official
Denton, Texas

Production Industry-Manufacturing
Lionel Sweeny
Coordinator, PWB Designer Trainee Program
Texas Instruments
Dallas, Texas

Production Industry-Construction
Ed Faulkner
Director of Project Control and Information Systems
H.C.B. Contractors
Dallas, Texas

Government
Joe Alford
City Council Member
Denton, Texas

Education

Texas Council on Industrial Arts Teacher Education (TCIATE)
Tommy Barker
Industrial Technology Instructor
Tarleton State University
Stephenville, Texas

Texas Industrial Arts Association (TIAA)
Ralph Schultz
Industrial TechnologyInstructor
Midland ISD
Midland, Texas

Texas Council of Industrial Arts Supervisors (TCIAS)
Lloyd Carter
Vocational Industrial Arts Program Director
Fort Worth ISD
Fort Worth, Texas

A Delphi panel was also identified. The thirteen members of the panel were selected from individuals representing teacher education and industrial technology classroom teachers. Members of the panel were:

Teacher Education Representatives:
Bill Forkner
Department of Technical Education
University of Houston
Houston, Texas

James Leeth
Department of Industrial Education and Technology
Tarleton State University
Stephenville, Texas

Nedom C. Muns
Industrial Technology
Sam Houston State University
Huntsville, Texas

Neil A. Edmunds, Chairman
Division of Industrial Education
University of Nebraska
Lincoln, Nebraska

E. Keith Blankenbaker
Industrial Technology
The Ohio State University
Columbus, Ohio

Larry Kuskie
Industrial Education Department
Kearney State University
Kearney, Nebraska

Industrial Arts Classroom Teacher Representatives:
International Technology Education Association

Les Litherland
Evert Junior High School
Lakewood, Colorado

TIAA Outstanding Teacher Awardees

Fred Blount
Lee High School
Midland, Texas

Lloyd Gober
O.Henry Junior High School
Austin, Texas

Jim Payne
Victoria High School
Victoria, Texas

Outstanding American Industrial Arts Student Association Chapter Advisor-Levels 1 and 2

Steve Price
Point South Junior High School
Lakewood, Colorado

Vaughn Croft
Santa Rosa High School
Tucson, Arizona

The representative from the current or most recent classroom teacher from the vice president post within the Industrial Arts Division of the American Vocational

Association was omitted at the discretion of the American Vocational Association.

A Material Validation and Review Committee was formed. The eight members of the Committee were selected from individuals with expertise in 19 TAC Chapter 25, equal access, computer applications, and special needs. Members of the committee were:

19 TAC Chapter 75
Ron McQueen, President
Texas Industrial Arts Association
Abilene, Texas

Neil Ballard
State Director, Industrial Arts
Texas Education Agency
Austin, Texas

Equal Access
Nelda Evarts
Personnel Specialist
North Texas State University
Denton, Texas

Judy Stewart, Assistant Director
Equal Opportunity Office
North Texas State University
Denton, Texas

Computer Applications
James L. Poirot, Chair
Department of Computer Science
North Texas State University
Denton, Texas

Paul Schlieve
Computer Applications Consultant
Denton, Texas

Special Needs
Marty Barbieri, Consultant
Vocational Education Assessment for the Handicapped
Dallas, Texas

Donna Cunningham
CVAE Instructor
Denton High School
Denton, Texas

Development of Field Experience Assessment Instrument

A computer search was initiated in an effort to locate an extant field experience assessment instrument. No assessment instrument was located that would satisfy the requirements of the research project. The instruments that were available were those that evaluated the student teacher, but none of the identified assessment instruments measured the nature of the field experience. It became necessary to develop an assessment instrument that better suited the objectives of the research contract. The assessment instrument developed contained elements from a study conducted by the University of Washington Teacher Education Research Center in Seattle, Washington (See Appendix A). The Washington study provided a master list of 199 items of teacher evaluation indicators. The original draft of the assessment instrument (See Appendix B) was organized into six subject areas: Demographics, Professional; Demographics, Institutional; Demographics, Departmental/ Divisional; Academic Requirements; Student Teaching Assignment; and Supervising Teacher. The assessment instrument needed to be concise, yet adequate enough to cover the major elements in the field experience. The instrument was designed to ascertain those qualities that characterize common elements in present field experiences in Texas schools and in model teacher preparation programs across the country.

The original draft contained twenty-six questions. The second draft, which was reviewed by the Advisory Committee on November 29, 1984, contained twenty-five questions (See Appendix C). The Advisory Committee analyzed the instrument, the final draft of which reflected the Committee's suggestions as well as additional work by the project co-directors. The final draft of the assessment instrument contained the original five subject areas with the exception of Demographics, Departmental/Divisional; which was incorporated into the other appropriate catagories. The primary difference in the first draft and in the final draft was the construction of the questions (See Appendix D).

Initially the Field Experience Assessment Instrument was mailed to the fifteen Texas schools with industrial technology teacher preparation programs (See Appendix E). As the model programs were identified across the country, the assessment instrument was mailed to those schools (See Appendix F).

Identification of Model Programs

In an effort to identify those teacher education preparation programs in industrial technology that were model programs, state department of education industrial technology directors, or their equivalent, were contacted in all fifty states (See Appendix G). Administrators of programs identified as model were asked to complete the Field Experience Assessment Instrument. Completed instruments were returned on or before January 14, 1985. Fifty-nine programs throughout the United States were identified as model and received the assessment instrument. A total of seventy-four institutions received the assessment instruments. This total included the fifteen Texas institutions and the fifty-nine programs throughout the nation. The results of the Industrial Technology Field Experience Survey are analyzed in Chapter Three of this document.

Development of Delphi Questionnaires

The initial activity in this phase was designed to generate primary items to be utilized in the initial delphi round. The first computer search had produced the University of Washington study which included a master list of 199 teacher evaluation indicators. This listing was helpful in developing initial seed items for round one of the delphi. The first delphi questionnaire included five such seed items (See Appendix H). Panelists were asked to develop up to ten statements of similar construction that characterize a model or exemplary field experience. The first round of the delphi produced seventy-two statements.

The second round of the delphi was concerned with the ranking of the seventy-two items produced in the first round (See Appendix I). Panelists were asked to assign a numerical rating to each of the statements to indicate the viability of each statement with reference to a model field experience in industrial technology . A numerical rating scale accompanied the listing. The seventy-two statements were organized in five subject areas: University Curriculum, University Supervisor, Classroom Supervising Teacher, Student Teacher, and Public School Environment. Ratings were tabulated in order to calculate a mean value for each statement.

In the third round, panelists were asked to rate the same seventy-two statements once again (See Appendix J). The same rating scale was utilized and the ratings from

round two were included on the questionnaire for the third round. Panelists were also told that any statement which received a mean of less than a 4.0 would be eliminated. Thirty-nine of the original seventy-two statements received a mean value of 4.0 or more. Analysis of the delphi portion of the study is included in chapter 4 of this document.

Generation and Validation of the Guide Book

Materials for the Guide Book were generated from the results of the national survey and the delphi portion of the study. The Guide Book was reviewed by both the Advisory Committee and the Material Validation and Review Committee. The final draft reflected any changes recommended by the members of the two committees, with the exception of one individual, and is published under a separate cover. The only recommendation that could not specifically be addressed concerns computer applications. Dr. James L. Poirot, Chairman, Computer Science Department, North Texas State University, and member of the Material Validation and Review Committee of this project noted the: "...existent shortage of computer emphasis on state and national levels" (See Appendix M). While the project co-directors are in complete agreement with Dr. Poirot, it is not possible to change the results of the national survey nor the results of the Delphi Panel. Sadly, the reality of the lack of computer application in our profession is dully noted.

CHAPTER III
FINDINGS OF THE NATIONAL/STATE SURVEYS ON INDUSTRIAL TECHNOLOGY FIELD EXPERIENCE

Fifty-nine institutions throughout the United States were identified as having model industrial technology teacher preparation programs by the State Department Director of Industrial Technology - or equivalent. The appropriate individual, usually the department chairperson, at each institution received a survey instrument. A follow-up letter and a final telephone call were used to obtain as many returns as possible. Of the fifty-nine survey instruments, fifty-two (88.14%) were returned. This was a slightly higher percentage than within the state. Fifteen institutions in Texas have industrial technology teacher preparation programs. A survey was mailed to each. Twelve instruments (80.00%) were returned.

Section I. Demographics: Professional

National Results (Table 1)

Of the individuals completing the questionnaire, 40 (62.50%) listed themselves as administrators, 30 (46.88%) as faculty, and 6 (9.38%) as "other". Some of the 64 respondents selected more than one response. Most of the individuals who checked "other", specified they were department heads. Also listed were:

1. Director of technology education program
2. Coordinator of IAET program
3. Coordinator of student teaching
4. Graduate advisor
5. Coordinator for industrial arts

Asked to characterize their responsibilities with respect to the student teaching program, 34 respondents (53.13%) indicated they were involved with the administration of the program, 24 (37.50%) indicated they directly supervised the program, 9 (14.06%) indicated they did not have any responsibilities with respect to the industrial technology field experience program, and 13 (20.31%) selected "other". Responsibilities listed under "other" included:

1. Credentials advisor
2. Advisor
3. Responsible for placement
4. Candidate screening
5. Content area supervisor
6. Professional Seminar Instructor

TABLE 1
DEMOGRAPHICS
PROFESSIONAL/INSTITUTIONAL

Statement	Category	National		Texas(12)	
		Number	%	Number	%
1. Professional Capacity	Administrator	40	62.50	8	66.67
	Faculty	30	46.88	3	25.00
	Other	6	9.38	3	25.00
2. Responsibilities with the student teacher program	Administration	34	53.13	6	50.00
	Direct Supervision	24	37.50	3	25.00
	None	9	14.06	3	25.00
	Other	13	20.31	1	8.33
3. Highest earned degree	Bachelor	0	00.00	0	00.00
	Master	5	7.81	1	8.33
	Doctor	59	92.19	11	91.67
4. Type of institution	College	10	15.63	0	00.00
	University	54	84.37	12	100.00
5. Enrollment at Institution	less than 5,000	16	25.00	5	41.67
	5,000-15,000	5	7.81	3	25.00
	15,000-25,000	13	20.31	2	16.67
	25,000-35,000	26	40.63	1	8.33
	35,000+	4	6.25	1	8.33
6. Institutional Environment	Urban	19	29.69	4	33.33
	Suburban	18	28.12	4	33.33
	Rural	27	42.19	4	33.33
7. Number of students seeking teacher certification and enrolled as industrial arts/ industrial technology majors	less than 25	15	23.44	5	41.67
	25-50	23	35.94	4	33.33
	51-100	18	28.12	3	25.00
	100+	8	12.50	0	00.00

7. Coordinator of weekly seminar of student teachers and cooperating teachers.
8. Consultant as problems arise

Of those individuals completing the questionnaire, 59 (92.19%) have a doctorate as the highest earned degree.

Results from Texas (Table 1)

Of the individuals completing the questionnaire, 8 (66.67%) listed themselves as administrators, 3 (25.00%) as faculty, and 3 (25.00%) as "other". Two of the three individuals who checked "other", specified they were department heads. The third individual indicated that he/she was the coordinator of industrial arts.

Asked to characterize their responsibilities with respect to the student teaching program, 6 respondents (50.00%) indicated they were involved with the administration of the program, 3 (25.00%) indicated they directly supervised the program, 3 (25.00%) indicated they did not have any responsibilities with respect to the industrial technology field experience program, and 1 (8.33%) indicated that he/she was the advisor. Of the 12 individuals who completed the questionnaire, 11 (91.67%) have a doctorate as the highest earned degree.

Section II. Demographics: Institutional

National Results (Table 1)

Of the institutions represented, 54 (84.37%) are universities and 10 (15.63%) are colleges. Twenty-six (40.63%) of the institutions have an enrollment between 25,000 to 35,000; 16 (25.00%) have less than 5,000 students; 13 (20.31%) are between 15,000 to 25,000; 5 (7.81%) are between 5,000 and 15,000; and 4 (6.25%) have enrollments over 35,000. Twenty-seven (42.19%) of the institutions are in rural settings, 19 (29.69%) are in urban settings, and 18 (28.12%) are in suburbs. In response to the number of students seeking teacher certification as industrial technology majors, 23 (35.94%) of the respondents indicated 25-50 majors, 18 (28.12%) indicated 51-100, 15 (23.44%) indicated less than 25 and 8 (12.50%) indicated more than 100 majors.

Results from Texas (Table 1)

Of the institutions represented, all are universities. Five (41.67%) of the institutions have an enrollment less than 5,000; 3 (25.00%) are between 5,000 to 15,000; 2 (16.67%) are between 15,000 to 25,000; 1 (8.33%) is

between 25,000 and 35,000; and 1 (8.33%) has an enrollment over 35,000. Of the twelve Texas institutions responding, an equal number, 3 (33.33%), are in urban settings, rural settings, and in the suburbs. In response to the number of students seeking teacher certification as industrial technology majors, 5 (41.67%) of the respondents indicated less than 25 majors, 4(33.33%) indicated 25-50, 3 (25.00%) indicated 51-100, and none indicated more than 100 majors.

Section III. Academic Requirements

National Results (Table 2)

Forty-nine (76.56%) of the institutions use semester hours, while 15 (23.44%) use quarter hours. Twenty-five respondents (39.06%) indicated that their industrial technology teacher education majors are required to take 10-15 semester hours of education classes not including student teaching, 15 (23.44%) require 16-21 semester hours, 15 (23.44%) require 22 or more semester hours, and 9 (14.06%) require 9 semester hours or less.

Of the sixty-four respondents, 18 (28.13%) indicated that a competency examination or exit examination in technology is required. Five respondents (7.81%) indicated that an industrial internship or cooperative education is required. A mean grade point average (GPA) of 2.36 is required in industrial technology while a mean GPA of 2.15 is the general college/university requirement across the national programs surveyed. In terms of median GPA, the industrial technology requirement is 2.50 while 2.00 is the general college/university requirement.

Results from Texas (Table 2)

All Texas institutions use semester hours. Seven respondents (58.33%) indicated that their industrial technology teacher education majors are required to take 10-15 semester hours of education classes not including student teaching, 3 (25.00%) require 22 or more semester hours, and 2 (16.67%) require 16-21 semester hours.

Of the twelve schools, only 1 (8.33%) indicated that a competency examination or exit examination in technology is required, and none of the programs require an industrial internship or cooperative education. A mean grade point average (GPA) of 2.375 is required in industrial technology across Texas institutions while a mean GPA of 2.15 is the general university requirement. In terms of medians, the Texas schools are identical to

TABLE 2
ACADEMIC REQUIREMENTS

Statement	Category	Responses(64) National Number	National %	Texas(12) Number	Texas(12) %
8. Type of credit hours utilized *	Semester hours	49	76.56	12	100.00
	Quarter hours	15	23.44	0	00.00
9. Semester hours of required education classes in the professional sequence (not including student teaching)	0-9	9	14.06	0	00.00
	10-15	25	39.06	7	58.33
	16-21	15	23.44	2	16.67
	22+	15	23.44	3	25.00
10. (A) Additional Requirements	Industrial Internship or Cooperative Education	5	7.81	0	00.00
	Competency/Exit Exam in Industrial Technology	18	28.13	1	8.33
		M	Median	M	Median
(B) Minimum required grade point average(GPA)	Industrial Arts/Industrial Technology	2.36	2.50	2.375	2.50
	College/University	2.15	2.00	2.15	2.00

* Because of poor word usage on the instrument, the actual number of credit hours could not be utilized.

national institutions with a required GPA of 2.50 in industrial technology while a 2.00 is the general university requirement.

Section IV: Student Teaching Assignment

National Results (Table 3)

Sixty-one (95.31%) of the respondents indicated that the students have input into their placement into a particular school. Fifty-one (79.69%) indicated that the students have a choice of rural, urban, or suburban setting but only 15 (23.44%) expose the student teacher to more than one teaching environment, i.e., rural, urban, suburban. Twenty-five respondents (39.06%) indicated that each student teacher is rotated through the various technologies - communication, energy/power, manufacturing/construction - during the student teaching assignment.

One respondent (1.56%) indicated the total student teaching assignment is 5-7 weeks in length, 28 (43.75%) indicated 8-10 weeks, 9 (14.06%) indicated 11-13 weeks, 22 (34.38%) indicated 14-18 weeks, and 4 (6.25%) indicated the total student teaching assignment was more than 18 weeks in length. One respondent (1.56%) indicated the student teaching assignment consisted of 1-3 hours per day, 17 (26.56%) indicated 4-6 hours per day, and 46 (71.88%) indicated 7-8 hours per day. One respondent (1.56%) indicated the student teaching assignment consisted of two days per week, and the remainder of the respondents (98.44%) indicated five days per week. While 31 student teaching programs (48.44%) require exposure to student leadership activities such as the American Industrial Arts Student Association (AIASA), 33 (51.56%) do not.

Forty-three (67.19%) of the programs specify the number of hours the student teacher must spend teaching during the student teaching assignment. Four programs (6.25%) distribute the student teaching experience throughout the freshman through senior years, 1 (1.56%) requires student teaching during the third year, 53 (82.81%) during the fourth year, and 5 respondents (7.81%) indicated "other". These were all various combinations of two years such as third and fourth years or second and fourth years. One respondent (1.56%) did not answer this question.

TABLE 3
STUDENT TEACHING ASSIGNMENT

Statement	Category	Responses(64) National Number	National %	Texas(12) Number	Texas(12) %
11. Students have input into their placement into a particular school for student teaching.	Yes	61	95.31	12	100.00
	No	3	4.69	0	00.00
12. Students given a choice of rural, urban, or suburban location for student teaching.	Yes	51	79.69	11	91.67
	No	13	20.31	1	8.33
13. Student teacher exposed to more than one type of teaching environment(rural, urban, suburban) during student teaching assignment.	Yes	15	23.44	1	8.33
	No	49	76.56	11	91.67
14. Each student teacher rotates through various technologies (Communication, Energy/Power, Manufacturing/Construction) during student teaching assignment.	Yes	25	39.06	4	33.33
	No	39	60.94	8	66.67
15. Total number of weeks spent in student teaching assignment	2-4 weeks	0	00.00	0	00.00
	5-7 weeks	1	1.56	1	8.33
	8-10 weeks	28	43.75	6	50.00
	11-13 weeks	9	14.06	1	8.33
	14-18 weeks	22	34.38	4	33.33
	18+ weeks	4	6.25	0	00.00
16. Total time spent each day in student teaching assignment	1-3 hours	1	1.56	0	00.00
	4-6 hours	17	26.56	2	16.67
	7-8 hours	46	71.88	10	83.33

TABLE 3(CONT.)
STUDENT TEACHING ASSIGNMENT

Statement	Category	National		Texas(12)	
		Number	%	Number	%
17. Days per week spent in student teaching assignment.	1 day	0	00.00	0	00.00
	2 days	1	1.56	0	00.00
	3 days	0	00.00	0	00.00
	4 days	0	00.00	0	00.00
	5 days	63	98.44	12	100.00
	Varies	0	00.00	0	00.00
18. Student Teaching program requires exposure to student leadership activities such as the American Industrial Arts Student Association (AIASA)	Yes	31	48.44	4	33.33
	No	33	51.56	8	66.67
19. The program specifies the number of hours that the student teacher must spend teaching in the student teaching assignment.	Yes	43	67.19	9	75.00
	No	21	32.81	3	25.00
20. Student teaching is distributed throughout the freshman through senior years	Yes	4	6.25	0	00.00
	No	60	93.75	12	100.00
21. Occurance of student teaching(other than in question 20)	3rd year	1	1.56	0	00.00
	4th year	53	82.81	11	91.67
	5th year	0	00.00	0	00.00
	Other	5	7.81	1	8.33
	No Response	1	1.56	0	00.00

Responses(64)

Results from Texas (Table 3)

Every respondent from Texas indicated that the students have input into their placement into a particular school. Eleven (91.67%) indicated that the students have a choice of rural, urban, or suburban setting, but only 1 (8.33%) exposes the student teacher to more than one teaching environment - rural, urban, suburban. Four respondents (33.33%) indicated that each student teacher is rotated through the various technologies - communication, energy/power, manufacturing/construction - during the student teaching assignment.

One respondent (8.33%) indicated the total student teaching assignment is 5-7 weeks in length, 6 (50.00%) indicated 8-10 weeks, 1 (8.33%) indicated 11-13 weeks, and 4 (33.33%) indicated 14-18 weeks. Two respondents (16.67%) indicated the student teaching assignment consisted of 4-6 hours per day and 10 (83.33%) indicated 7-8 hours per day. All twelve respondents indicated the student teaching assignment consists of five days per week. Only four of the student teaching programs (33.33%) require exposure to student leadership activities such as the American Industrial Arts Student Association (AIASA).

Nine programs (75.00%) specify the number of hours the student teacher must spend teaching during the student teaching assignment. Eleven programs (91.67%) require student teaching during the fourth year. One (8.33%) allows student teaching during the third or fourth year.

Section V. Supervising Teacher

National Results (Table 4)

Twenty-five respondents (39.06%) stated the university administration selects or assigns the supervising teacher, 8 (12.50%) responded the public school administration, and 30 (46.88%) selected "other". Responses listed under "other" included:

1. Department of education
2. Director of field experience
3. Coordinator of industrial arts
4. Joint decision between the public school administration and the university administration.
5. Department of industrial technology
6. Department teacher education coordinator
7. Student teaching supervisor

The public schools are compensated in several ways. Thirty-three respondents (51.56%) indicated financial renumeration to the supervising teacher, 5 (7.81%) indicated financial renumeration to the local school system, 6 (9.38)%) indicated college credit hours, 3 (4.69%) indicated release time, and 16 (25.00%) selected "other". Most of the respondents who selected "other" stated there was no form of compensation. Other responses included:

1. Scholarships
2. Tuition waver certificate
3. Public school administration decides

Forty-three respondents (67.19%) indicated the specification of duties for the public school supervising teacher is the joint responsibility of the local school system and the college/university, 15 (23.44%) indicated it is the decision of the college/university and 6 (9.37%) indicated it is the decision of the local school system. Twenty-five respondents (39.06%) indicated that the university supervising teacher is required to visit the student teacher 1-3 times in the student teaching assignment, 28 (43.75%) indicated 4-6 times, and 11 (17.19%) indicated 7 or more times.

Results from Texas (Table 4)

Four respondents (33.33%) stated the university administration selects or assigns the supervising teacher, 2 (16.67%) responded the public school administration, 5 (41.67%) selected "other", and 1 individual (8.33%) did not respond. Listed under "other" were:

1. Joint decision between the public school administration and the university administration
2. Industrial technology department

The public schools in Texas are also compensated in several ways. Five respondents (41.67%) indicated financial renumeration to the supervising teacher, 5 (41.67%) indicated financial renumeration to the local school system, 1 (8.33%) indicated release time, 1 (8.33%) indicated college credit hours, one individual (8.33%) did not respond, and 2 (16.67%) selected "other". Both of the respondents who selected "other" stated there was no form of compensation.

Nine respondents (75.00%) indicated that the specification of duties for the public school

TABLE 4
SUPERVISING TEACHER

Statement	Category	National		Texas(12)	
		Number	%	Number	%
22. Selects/Assigns the supervising teacher	Public School Administration	8	12.50	2	16.67
	University Administration	25	39.06	4	33.33
	Other	30	46.88	5	41.67
	No response	1	1.56	1	8.33
23. Compensation of public school supervising teacher	Release Time	3	4.69	1	8.33
	College Credit Hours	6	9.38	1	8.33
	Career Ladder Steps	0	00.00	0	00.00
	Financial Renumeration to Supervising Teacher	33	51.56	5	41.67
	Financial Renumeration to Local School System	5	7.81	5	41.67
	Other	16	25.00	2	16.67
	No response	1	1.56	1	8.33
24. Specifies duties of public school supervising teacher	Local School System	6	9.37	2	16.67
	College/University	15	23.44	9	75.00
	Joint Responsibility	43	67.19	1	8.33
25. Number of times the university supervising teacher required to visit the student teacher in the student teaching assignment	Never	0	00.00	0	00.00
	1-3 times	25	39.06	3	25.00
	4-6 times	28	43.75	7	58.33
	7 + times	11	17.19	2	16.67

Responses(64)

supervising teacher is the responsibility of the university, 2 (16.67%) indicated it is the decision of the local school system, and 1 (8.33%) indicated it is the joint responsibility of the local school system and the university. Three respondents (25.00%) indicated that the university supervising teacher is required to visit the student teacher 1-3 times in the student teaching assignment, 7 (58.33%) indicated 4-6 times, and 2 (16.67%) indicated 7 or more times.

CHAPTER IV
FINDINGS OF DELPHI STUDY

Thirty-nine of the original seventy-two statements (54.2%) had third round means of 4.00 or more and were retained. These statements and their final means have been listed, by category, in the tables which follow. Categories are presented in the order in which they appeared on the delphi questionnaires. All statements were renumbered, sequentially, to aid in their identification. Statement numbers do not represent rankings.

Contained in Table 5 are statements which pertain to the university curriculum. The panelists indicated, in statement one, that instruction in the handling of classroom discipline was of major importance. This statement received the highest rating in the category. Formal university instruction emphasizing competence in planning, organizing and conducting instruction as well as classroom supervision were highly rated (see statements 2 and 5). In a similar vein, panelists noted in statement three that instruction in the financial responsibilities associated with running industrial technology education was a competence required of student teachers. Student teachers in model field experience programs have formal instruction dealing with the curricular trends in the profession (statement number 4), and the setup and running of student organizations (statement number 7). Lastly, panelists indicated that the university curriculum should be designed to prepare student teachers for work in the middle school as well as the high school (statement number 6).

The second category of statements dealt with the university supervisor. Contained in Table 6 are five statements which characterize this component of the field experience. Of major significance were statements eight and nine. The former stressed that the university supervisor be an experienced subject matter specialist; the latter specified that the supervisor be a qualified industrial technology teacher educator. The remaining statements dealt with the visitation schedule of the university supervisor. The panelists indicated that the supervisor should visit student teachers a minimum of three times on a regular but unannounced basis (see statements 10, 11, and 12).

Category three, the classroom supervising teacher, contains three statements (see Table 7). Two of these focused on the interaction between the university

Table 5

The University Curriculum

Number	Statement	$\bar{X}$
1.	University coursework provides instruction in the handling of discipline in the classroom.	4.54
2.	University coursework emphasizes competence in planning, organizing and conducting instruction in industrial technology education.	4.46
3.	The curriculum addresses the financial responsibilities (i.e., bookkeeping, fundraising, etc.) associated with managing industrial technology education.	4.38
4.	University coursework provides awareness of the direction of curriculum change in the field of industrial technology education.	4.23
5.	The university provides current training in classroom supervising functions prior to the student teacher's field experience.	4.23
6.	The university curriculum is designed to prepare students for experiences in both the middle and high school.	4.23
7.	The curriculum includes how to start and run a student organization and its benefits to the overall industrial technology education program.	4.00

Table 6

The University Supervisor

Number	Statement	$\bar{X}$
8.	University supervision of the field experience is conducted by subject matter specialists who have at least three years of successful teaching experience.	4.85
9.	The university supervisor is a qualified industrial technology teacher educator.	4.77
10.	The University supervisor visits the student teacher at least three times during the field experience.	4.77
11.	The university supervisor is able to visit the field experience location without prior notification.	4.46
12.	The university supervisor visits the student teacher on a regular basis.	4.00

Table 7

The Classroom Supervising Teacher

Number	Statement	$\bar{X}$
13.	The classroom supervising teacher is interviewed by university faculty before assignments are made.	4.25
14.	The classroom supervising teacher has an up-to-date approach to industrial technology education so that the field experience is related to the future, not the past.	4.23
15.	The university specifies the duties of the classroom supervising teacher.	4.08

supervisor and the classroom teacher. Statement thirteen specified that the classroom supervising teacher is interviewed by the university prior to placement of any student teachers. This statement was highly rated by the panelists indicating that they viewed the screening process as rather important. Statement fifteen indicated that the university was responsible for specifying the duties of the classroom teacher with reference to the field experience. The panelists reported, in statement fourteen, that the classroom supervising teacher should employ the current thinking of the profession in his/her instructional program. This would expose the student teacher to present/future programming rather than programming based on dated concepts.

Contained in the fifth table are statements which concern the role of the student teacher. Of the thirteen statements generated by the delphi panel in this category,ten had rankings that exceeded 4.30. This strongly reflects the panel having closely approached a concensus on the statements.

Three statements (16, 18, and 25) dealt with preliminary concerns essential to efficient placement of the field experience. Student teachers were to have some input with regard to technical area, however, the university was to determine actual placement. Additionally, the student teacher is to be given an orientation prior to each field experience.

Statements seventeen and nineteen pertained to the student teacher's introduction to the field experience school. The panelists specified that they should be made aware of resource materials available in the library and the laboratorys (see statement 17). Of similar importance was informing student teachers of insurance coverages and other protections established for their safety (see statement 19).

The remaining statements were concerned with the student teachers expected performance at the field experience site. In addition to assisting the classroom teacher with various instructional aids (statement 24), the student teacher is expected to develop or acquire other appropriate media/materials for various teaching situations (statement 27). Actual teaching is expected to utilize a variety of learning strategies, (statement 22), and activities such as task analysis, task sequencing and lesson plan development are reported to be additional requirements (see statement 23) of a model field experience. The student teacher participates in laboratory supervision and maintenance (statement 20)

Table 8

The Student Teacher

Number	Statement	$\bar{X}$
16.	The student teacher is given proper orientation to each field experience.	4.69
17.	The student teacher is aware of the location of resources held for industrial technology education in the school library as well as the reference books kept in the laboratory.	4.62
18.	The industrial technology education department at the university determines where student teachers are placed in the field.	4.54
19.	The student teacher is informed of all insurances, coverages and protection that have been arranged for him or her.	4.54
20.	The student teacher participates in organizational, developmental, supervisory and maintenance activities appropriate to the classroom/laboratory setting.	4.46
21.	The student teacher has direct contact with administrators, guidance counselors and support staff.	4.46
22.	The student teacher is required to utilize a variety of teaching strategies, i.e., lecture, demonstration and mediated small and large group activities.	4.38
23.	The student teacher participates in task analysis, task sequencing, task detailing and development of a lesson plan.	4.31

Table 8 (continued)

Number	Statement	$\bar{X}$
24.	The student teacher is required to assist the classroom supervising teacher with posters, bulletin boards, models and other instructional aids used in teaching.	4.31
25.	The student teacher has an opportunity to request the technical area taught at the field experience school.	4.31
26.	The student teacher attends extra curricular school activities with the classroom supervising teacher to whom he or she is assigned.	4.25
27.	The student teacher is required to identify, acquire or develop appropriate instructional media/ materials and equipment for various teaching situations prior to completion of the field experience.	4.23
28.	Student teachers are required to become acquainted with the total program at the school where they teach.	4.15

and also accompanies the classroom teacher in extra-curricular assignments and activities (statement 26). In a model field experience, the student teacher interacts with administrators, guidance staff and support personnel (statement 21) and becomes well acquainted with the total program at the school where they teach (statement 28).

The fifth and final category of statements generated by the delphi panel pertained to the public school environment (see Table 9). Eleven statements were compiled which broadly defined the environment in which the field experience occurs. Statement twenty-nine specified the field experience as providing opportunities for the student teacher to realistically observe the entire school day. This statement was very highly rated. Also highly rated was statement thirty which emphasized the need of student teachers to be exposed to different classroom evaluation systems. Evaluation of the student teacher was addressed in statements thirty-one and thirty-two. Such evaluation was defined as well established and based on criteria outlined in a field experience handbook.

The field experience should provide opportunities for the student teacher to utilize concepts from psychology and methods courses (statement 33) in an effort to identify individual differences and instructional approaches for middle and high school students (statement 34). During the field experience, opportunity should be available for counseling sessions involving the student teachers, classroom supervising teachers, and university supervisors (see statement 37). Following completion of the field experience, a post field experience seminar for student teachers was reported to be an important element (statement 35). Such a seminar would be used to discuss learning accomplished during the field experience.

The delphi panel indicated that the actual field experience should commence in the last semester of the student's degree program (statement 36) after completion of all major-field related courses (statement 38). In conclusion, the panelists noted that the field experience should not put a financial strain on the student teacher.

Table 9

The Public School Environment

Number	Statement	$\bar{X}$
29.	The field experience provides opportunities to observe the entire school day in a realistic manner.	4.69
30.	The field experience includes several opportunities to assist in actual grading processes and grading systems.	4.62
31.	The university has a well-established, written evaluation process with which to assess the quality of the student teacher's field experience.	4.62
32.	Their exists an up-to-date field experience handbook which provides orientation and criteria for evaluation of the field experience.	4.46
33.	The field experience is structured to allow the student teacher to identify and utilize concepts presented in psychology courses and/or methods courses.	4.23
34.	The field experience provides activities that allow the student teacher to identify individual differences in students and develop teaching strategies appropriate to these differences.	4.23
35.	There is an opportunity for a post-field experience seminar for all student teachers to collectively meet and discuss their learning.	4.15
36.	The field experience is concentrated in the last semester of the student's degree program.	4.08

Table 5 (continued)

Number	Statement	$\bar{X}$
37.	Classroom supervising teachers, student teachers and university supervisors engage in regularly scheduled seminars which address: (A) review of the progress of student teachers, (B) information critical to the success of student teachers, and (C) professional developments and concerns.	4.08
38.	The field experience is offered after completion of all major field related courses.	4.00
39.	The field experience does not put a financial strain on the student teacher.	4.00

CHAPTER V
SUMMARY AND CONCLUSIONS

Summary of National and State Survey Results

In comparing the responses (percentages) from the national survey with those from Texas, most were similar, with some noteable exceptions.

- 28.13% of the national respondents indicated that a competency/exit examination in industrial technology is required while only 8.33% of the Texas schools require the same.

- 23.44% of the national respondents indicated that each student teacher is exposed to more than one type of teaching environment (rural, urban, suburban) during student teaching while only 8.33% of the Texas schools require the same.

- 41.67% of the Texas respondents indicated that financial renumeration to the local system was the method of compensation for the public school supervising teacher while only 7.81% of the national respondents indicated the same.

- 75.00% of the Texas respondents indicated that the college/university specifies the duties of the public school supervising teacher while 67.19% of the national respondents indicated that it was a joint responsibility between the college/university and the local school system.

Therefore, it can be concluded that the industrial technology teacher education field experiences of the Texas schools are quite similar to the identified model programs throughout the United States.

Summary of Delphi Study Results

The majority of the thirty-nine statements generated by the Delphi Panel converged on two aspects of the field experience; the Student Teacher and the Public School Environment. With reference to the former, the panelists indicated that an appropriate orientation to the field experience site was important. Student teachers were to be made aware of and/or interact with administrative staffs, counseling staffs and support personnel. Model field experience programs were

characterized as opportunities for the student teacher to become realistically involved in the various facets of the school environment. It was reported that this should include extra-curricular functions as well as instructional functions.

The panel characterized the public school environment as one in which practice teaching could be undertaken, constructively evaluated, improved upon and discussed. It was further noted that student teaching should constitute a capstone experience, the culmination of organized professional and technical preparation.

Other aspects of the model field experience addressed by the Delphi Panel included the University Curriculum, the University Supervisor, and the Classroom Supervising Teacher. The panelists indicated that the university curriculum should cover the nuts and bolts of teaching. This included discipline, student organizations, and laboratory organization in addition to curricular content and development. The university supervisor, an experienced industrial technology educator, maintains control and provide guidance and direction for the field experience. The model program utilizesselect classroom supervising teachers with contemporary knowledge and a sincere interest in teacher preparation.

Conclusions

This educational survey of Texas industrial technology teacher preparation institutions and nationally identified model industrial technology teacher preparation programs has provided the authors and the state of Texas with information relevant to the graduates of a four-year teacher preparation institution. The authors believe this information will have positive influence upon the industrial technology education programs at the fifteen state institutions. Hopefully, this research will provide some assistance in updating and refining existing industrial technology field experiences to reflect current national trends. The findings from the delphi study can provide Texas educators with additional insights into what constitutes a truly model program.

APPENDIX A

Master List of Teacher Evaluation Indicators

University of Washington
College of Education
Teacher Education Research Center
Seattle, Washington
1982

1. Specifies or selects learner objectives for lessons.

2. Uses teaching methods appropriate for objectives, learners, and environment.

3. Communicates personal enthusiasm.

4. Works cooperatively with colleagues, administrators, and community members.

5. Specifies or selects teaching procedures for lessons.

6. Uses instructional equipment and other instructional aids.

7. Stimulates learner interest.

8. Follows the policies and procedures of the school district.

9. Specifies or selects content, materials, and media for lessons.

10. Uses instructional materials that provide learners with appropriate practice on objectives.

11. Conveys the impression of knowing what to do and how to do it.

12. Demonstrates ethical behavior.

13. Specifies or selects materials and procedures for assessing learner progress on the objectives.

14. Gives directions and explanations related to lesson content.

15. Demonstrates warmth and friendliness.

16. Performs extra-instructional duties.

17. Plans instruction at a variety of levels.

18. Clarifies directions and explanations when learners misunderstand lesson content.

19. Demonstrates sensitivity to needs and feelings of learners.

20. Participates in professional growth activities.

21. Organizes instruction to take into account differences among learners in their capabilities.

22. Uses responses and questions from learners in teaching.

23. Demonstrates patience, empathy, and understanding.

24. Shares and seeks professional materials and ideas.

25. Organizes instruction to take into account differences among learners in their learning styles.

26. Provides feedback to learners throughout the lesson.

27. Provides feedback to learners about their behavior.

28. Organizes instruction to take into account differences among learners in their rates of learning.

29. Uses acceptable written and oral expression with learners.

30. Promotes comfortable interpersonal relationships.

31. Uses teacher-made or teacher-selected evaluation materials or procedures to obtain information about learner progress.

32. Implements learning activities in a logical sequence.

33. Maintains appropriate classroom behavior.

34. Communicates with individual learners about their needs and progress.

35. Demonstrates ability to conduct lessons using a variety of teaching methods.

36. Manages disruptive behavior among learners.

37. Obtains and uses information about learners from cumulative records.

38. Demonstrates ability to work with individuals, small groups, and large groups.

39. Identifies learners who require the assistance of specialists.

40. Uses procedures that get learners initially involved in lessons.

41. Obtains and uses information from co-workers and parents to assist with specific learner problems.

42. Provides learners with opportunities for participating.

43. Obtains information on the effectiveness of instruction.

44. Maintains learner involvement in lessons.

45. Revises instruction as needed using evaluation results and observation data.

46. Reinforces and encourages the efforts of learners to maintain involvement.

47. Helps learners recognize the purpose and importance of topics or activities.

48. Demonstrates knowledge in the subject area.

49. Attends to routine tasks.

50. Uses instructional time effectively.

51. Provides a learning environment that is attractive and orderly.

52. Objectives for the lesson are stated in observable learner outcomes.

53. Lesson begins promptly.

54. Expectations for behavior conducive to learning are stated or have been established for students.

55. Instructional plan is communicated to students.

56. Courtesy and respect are modeled.

57. Learner objectives are compatible with content and level.

58. Instruction facilitates the students' achievement of a stated objective.

59. Firmness of the teacher in managing behavior conveys confidence.

60. A logical sequence is followed in the lesson.

61. Methods are used to positively reinforce students who are engaged in learning.

62. Stated instructional procedures are planned to achieve each objective.

63. At least two areas of student needs are accommodated in the learning activities.

64. Classroom procedures are directed in a confident manner.

65. Questions, descriptions, and explanations meet student levels of understanding.

66. Students are encouraged to express personal ideas, needs, or interests.

67. Learning experiences are planned to involve students actively in the lesson.

68. A stimulating technique is used to motivate student interest.

69. Learning experiences are provided throughout the observational period without loss of instructional time.

70. Explanations are restated in different words or initial explanations are sufficient.

71. Personalized references are used for illustration.

72. Materials supporting the achievement of objectives are stated.

73. More than one instructional approach is demonstrated.

74. Disruptions are addressed if they interfere with learning of other students.

75. Demonstrations or examples are used by the teacher for illustrations.

76. Support is demonstrated when a response is made to student errors.

77. Procedures or materials are planned to accommodate differences in at least two areas of student needs.

78. Varying organizational sizes are used for instruction.

79. School, district, or professional codes of behavior are adhered to and enforced by the teacher.

80. Knowledge of subject matter is communicated with confidence and authority.

81. Students are given reasons for actions, decisions, or directions.

82. Assessment procedures are planned to measure each stated objective.

83. All students are provided an opportunity for active involvement.

84. Techniques are used to involve students who are inattentive.

85. Content information communicated by the teacher is accurate.

86. The value of the lesson or of its components is communicated.

87. A record of individual student progress is maintained.

88. An opportunity is provided for all students to apply or practice knowledge or skills stated in the objectives.

89. Special assistance is provided to students.

90. Written material is legible.

91. Enthusiasm for learning and teaching is communicated.

92. Information is obtained from students to determine the need for clarification, assistance, or adjustment.

93. Adjustments in the lesson are made.

94. Written communication prepared by the teacher is free of errors in spelling, grammar, and mechanics of English.

95. Open-mindedness is communicated.

96. Information about progress or performance is provided to students during the lesson.

97. Patience and poise are maintained by the teacher.

98. Oral communication by the teacher is free of frequent errors in grammar.

99. A sense of humor is demonstrated.

100. Instruction is compatible with the physical environment.

101. Students are treated with fairness and impartiality.

102. Speech and voice quality do not interfere with communication.

103. Ability to maintain order in a classroom and to assist students in the development of self-discipline.

104. Ability to motivate student achievement via modeling, reinforcement, provision of success experiences, and appeal to student interests.

105. Ability to apply appropriate evaluative techniques for the systematic evaluation of pupil progress.

106. Ability to individualize instruction to meet the varying needs of students, via techniques such as mastery learning, alternate assignment, individual contract, and group work.

107. Ability to utilize audiovisual equipment and materials in teaching.

108. Ability to provide instruction leading to the different cognitive goals of acquisition, comprehension, and application of knowledge.

109. Ability to encourage and facilitate the development of social skills and enhance self-concept.

110. Ability to prepare teacher-made tests.

111. Ability to utilize observational techniques effectively in classroom.

112. Ability to utilize an understanding of the formal chain of control, decision making, communication, and authority within each school unit and effects on daily operation of classroom.

113. Ability to interpret and report student performance on teacher-made tests.

114. Ability to understand role of teacher organizations with formal and informal competition for control of education and one's own personal role in joining or not joining such organizations.

115. Ability to continue the development and clarification of one's own philosophy of education.

116. Ability to construct behavior/performance objectives in subject matter field.

117. Ability to apply the major principles of school law to areas such as due process, contracts, certification, teacher liability, and corporal punishment.

118. Ability to use value clarification techniques at any age level.

119. Ability to distinguish between bonafide educational innovation and temporary, fleeting fads.

120. Ability to utilize the sources of pressure for change in education, understanding currently suggested innovations and perceive potential consequences of alternatives.

121. Ability to apply the basic principles of how schools are financed, sources of income, and major areas of expenditure, and how these factors affect classroom operation.

122. Ability to understand the implications of the legal control of education by the state legislature, state department, and state board of education.

123. Ability to understand the effects of federal legislation and programs in education through financial support and Supreme Court decisions.

124. Ability to interpret and report student performance on standardized tests.

125. Ability to compare and contrast various philosophical viewpoints.

126. Knowledge of the interaction between the cultural matrices and educational systems.

127. Ability to choose from a broad knowledge of history of education the ideas that have shaped our culture.

128. Demonstrate the ability to orally communicate information on a given topic in a coherent and logical manner.

129. Demonstrate the ability to write in a logical, easily understood style appropriate grammar and sentence structure.

130. Demonstrate the ability to comprehend and interpret a message after listening.

131. Demonstrate the ability to read, comprehend, and interpret professional material.

132. Demonstrate the ability to add, subtract, multiply, and divide.

133. Demonstrate an awareness of patterns of physical and social development.

134. Diagnose the entry knowledge and/or skill of students for a given set of instructional objectives using diagrams, tests, teacher observations, and student records.

135. Identify long-range goals for a given subject area.

136. Construct and sequence related short-range objectives for a given subject area.

137. Select, adapt, and/or develop instructional materials for a given set of instructional objectives and student learning needs.

138. Select/develop and sequence related learning activities appropriate for a given set of instructional objectives and student learning needs.

139. Establish rapport with students in the classroom by using verbal and/or visual motivational devices.

140. Present directions for carrying out an instructional activity.

141. Construct or assemble a classroom test to measure student performance according to criteria based on object.

142. Establish a set of classroom routines and procedures for utilization of materials and physical movement.

143. Formulate a standard for student behavior in the class.

144. Identify causes of classroom misbehavior and employ a technique for correcting it.

145. Identify and/or develop a system for keeping records of class and individual student progress.

146. Counsel with students both individually and collectively concerning their academic needs.

147. Identify and/or demonstrate behavior that reflects feeling for dignity and worth of other people, including those from other ethnic, cultural, linguistic, and economic groups.

148. Demonstrate instructional and social skills that assist students in developing a positive self-concept.

149. Demonstrate teaching skills that assist students in developing their own values, attitudes, and beliefs.

150. Demonstrate teaching skills that assist students in developing their own values, attitudes, and beliefs.

151. Plan units of instruction.

152. Plan instruction at a variety of cognitive levels.

153. State pupil outcomes and/or student course objectives in behavioral terms.

154. Has realistic expectations for the learning process and student readiness for learning.

155. Gather, organize, and evaluate pertinent information about students for effective instruction.

156. Identify and evaluate learning problems of students in content area being taught.

157. Keep informed of current professional/subject area literature and curricular learning materials.

158. Know how to select (or construct), organize, and use appropriate instructional materials and equipment to facilitate learning activities.

159. Use criteria and effective procedures for determining pupil achievement of learning objectives.

160. Select/develop appropriate assessment techniques and instruments for instructional activities.

161. Collects, quantifies, and interprets data from appropriate assessment instruments.

162. Maintain evaluation records

163. Engage in professional development by obtaining and analyzing evaluative information concerning the effectiveness of instruction.

164. Use information about the effectiveness of instruction to revise it, with possible curriculum modifications.

165. Relate to accountability issues concerning responsibilities to students, parents, and instructional process.

166. Use a variety of instructional strategies.

167. Use convergent and divergent inquiry strategies.

168. Develop and demonstrates problem-solving skills.

169. Establish transitions and sequences in instruction that are varied.

170. Modify instructional activities to accommodate identified learner needs.

171. Demonstrate ability to work with individuals, small groups, and large groups.

172. Structure the use of time to facilitate student learning.

173. Use a variety of resources and materials.

174. Provide learning experiences that enable students to transfer principles and generalizations to situations outside of school.

175. Provide assignments/learning opportunities interesting and appropriate to different ability levels of pupils.

176. Demonstrate knowledge in the subject areas.

177. Demonstrate self-direction and convey the impression of knowing what to do and how to do it.

178. Work effectively as a member of an instructional team.

179. Use acceptable written and oral expression with learners.

180. Adjust components of the physical/learning environment over which the teacher has control to facilitate learning.

181. Provide group communication (cooperation, interaction, learning from others).

182. Use a variety of functional verbal and non-verbal communication skills with students.

183. Give clear directions and explanations.

184. Motivate students to ask questions.

185. Use questions that lead students to analyze, synthesize, and think critically.

186. Accept varied student viewpoints and/or ask student to extend or elaborate answers or ideas.

187. Demonstrate proper listening skills.

188. Provide feedback to learners on their cognitive performance.

189. Express a positive personal attitude toward the teaching profession.

190. Maintain an environment in which students are actively involved, working on-task.

191. Implements an effective classroom management system for positive student behavior (discipline).

192. Uses positive reinforcement patterns with students.

193. Assists students in discovering and correcting errors and inaccuracies.

194. Develops student feedback, evaluation skills, and student self-evaluation.

195. Accepts responsibility; is dependable.

196. Evidences cooperation with others (teachers, administrators, support staff, parents, etc.) in planning and teaching.

197. Acts as an appropriate model in terms of ethics, attitudes, and values.

198. Attends teacher and other professional meetings.

199. Understands and follows school law, policies, procedures and their effects on teachers and teaching, including professional conduct standards.

APPENDIX B

Assessment Instrument
of
Model Industrial Technology Field Experience Programs
(Original Draft)

Program Identification Number: ☐

INSTRUMENT #1

ASSESSMENT OF MODEL FIELD EXPERIENCE PROGRAMS

INSTRUCTIONS: Please read each of the following items carefully. Respond by placing a check mark (√) in the appropriate box; some responses may require you to write in a brief statement or phrase. Try to respond to all items. Your time and effort with this instrument is greatly appreciated.

I Demographics: Professional

1. What is your professional capacity?
   ☐ administrator ☐ faculty ☐ other _____ (specify)

2. Do you work with student teachers?
   ☐ yes ☐ no

3. Characterize your responsibilities with the student teacher program (check all that apply):
   ☐ administration ☐ other _____ (specify)
   ☐ direct supervision

4. Indicate the highest degree you have earned:
   ☐ bachelor ☐ master ☐ doctor

II Demographics: Institutional

5. Indicate the type of institution
   ☐ college ☐ university

6. What is the enrollment of your institution
   ☐ less than 5000 ☐ 25000 to 35000
   ☐ 5000 to 15000 ☐ 35000+
   ☐ 15000 to 25000

7. Characterize the institution's environment:
   ☐ urban ☐ rural ☐ suburban

III Demographics: Departmental/Divisional

8. How many students are enrolled as majors in the industrial arts or industrial technology program?
   ☐ less than 25 ☐ 51 to 100
   ☐ 25 to 50 ☐ 100+

9. How many students are enrolled at the graduate level in the industrial arts or industrial technology program?
   ☐ less than 5 ☐ 21 to 25
   ☐ 5 to 15 ☐ 26 to 50
   ☐ 16 to 20 ☐ 50+

10. What is the nature of the degree granted by the department/division?
    ☐ BSIA ☐ BSIT ☐ other _____ (specify)

IV Academic Requirements

11. Indicate if credit hours are semester or quarter:
☐ semester ☐ quarter

12. Specify the number of hours required for the undergraduate teaching major:
[ ]

13. Specify the number of hours required for the undergraduate non-teaching major: [ ]

14. How many hours of education classes are required in the professional sequence for teaching majors?
☐ 0 to 9 ☐ 16 to 21
☐ 10 to 15 ☐ 22+

V Student Teaching Assignment

15. Do students have input into their placement in student teaching?
☐ yes ☐ no

16. Are students given a choice of a rural, urban, or suburban setting?
☐ yes ☐ no

17. Are student teachers exposed to more than one type of teaching environment in the assignment?
☐ yes ☐ no

18. How many weeks are spent in the assignment?
☐ 2 to 4 weeks ☐ 11 to 13 weeks
☐ 5 to 7 weeks ☐ 14 to 18 weeks
☐ 8 to 10 weeks ☐ 18+ weeks

19. How many hours a day are spent in the student teaching assignment?
☐ 1 to 3 hours ☐ 7 to 8 hours
☐ 4 to 6 hours

20. Does your program specify the number of hours that the student teacher must spend teaching in the assignment?
☐ yes ☐ no

21. Is the student teaching assignment distributed throughout the years of the academic program?
☐ yes ☐ no

22. If the student teaching assignment is not distributed, when does it occur?
☐ end of the 3rd year ☐ other _____ (specify)
☐ end of the 4th year

23. Is student teaching designated as a 5th year?
☐ yes ☐ no

VI Supervising Teacher (master teacher or public school supervisor)

24. In what form is the public school supervising teacher compensated?
☐ financial renumeration ☐ release time
☐ career ladder steps ☐ other _____ (specify)
☐ college credit hours

25. Does the university specify the duties of the public school supervising teacher?

☐ yes ☐ no

26. How often does the university supervising teacher visit the public school supervising teacher?

☐ never ☐ 4 to 6 times
☐ 1 to 3 times ☐ 7+ times

APPENDIX C

Assessment Instrument
of
Model Industrial Technology Field Experience Programs
(Second Draft)

Program Identification Number: ☐

ASSESSMENT OF MODEL FIELD EXPERIENCE PROGRAMS

Instructions: Please read each of the following items carefully. Respond by placing a check mark (✓) in the appropriate box; some responses may request you to write a brief phrase. Try to respond to all items. Your time and effort with this instrument is greatly appreciated.

I. DEMOGRAPHICS: PROFESSIONAL

1. What is your professional capacity?
   ☐Administrator ☐Faculty ☐Other:_____ (specify)

2. Characterize your responsibilities with the student teacher program. Check all that apply:
   ☐Administration ☐None
   ☐Direct Supervision ☐Other:_____ (specify)

3. What is your highest earned degree?
   ☐Bachelor ☐Master ☐Doctor

II. DEMOGRAPHICS: INSTITUTIONAL

4. Indicate the type of institution:
   ☐College ☐University

5. What is the enrollment of your institution?
   ☐Less than 5,000 ☐15,000 to 25,000 ☐35,000+
   ☐5,000 to 15,000 ☐25,000 to 35,000

6. Characterize the institution's environment:
   ☐Urban ☐Suburban ☐Rural

7. How many students, seeking teacher certification, are enrolled as majors in the industrial arts or industrial technology program?
   ☐Less than 25 ☐51 to 100
   ☐25 to 50 ☐100+

III. ACADEMIC REQUIREMENTS

8. Specify the total number of credit hours required (either semester or quarter) for the undergraduate teaching major in industrial arts or industrial technology:
   ☐ Semester Hours ☐ Quarter Hours

9. How many hours of education classes (not counting student teaching) are required in the professional sequence for teaching majors?
   ☐0 to 9 ☐16 to 21
   ☐10 to 15 ☐22+

10. Does the teacher education program require (check all that apply):
    ☐Industrial Internship or Cooperative Education
    ☐Competency or Exit Examination in Technology
    ☐Minimun GPA; Specify:_____ If this GPA is different from the general college/university requirement, what is that GPA:_____

IV. STUDENT TEACHING ASSIGNMENT

11. Do students have input into their placement into any particular school for student teaching?
    ☐Yes ☐No

12. Are students given a choice of rural, urban, or suburban setting?
    ☐Yes ☐No

13. Is each student teacher exposed to more than one type of teaching environment (i.e., rural, urban, suburban) in the student teaching assignment?
☐Yes ☐No

14. Does each student teacher rotate through various technologies (i.e., communication, energy/power, manufacturing/construction) in the student teaching assignment?
☐Yes ☐No

15. What is the total number of weeks spent in the student teaching assignment?
☐2 to 4 weeks ☐8 to 10 weeks ☐14 to 18 weeks
☐5 to 7 weeks ☐11 to 13 weeks ☐18+ weeks

16. How many hours a day are spent in the student teaching assignment?
☐1 to 3 hours ☐4 to 6 hours ☐7 to 8 hours

17. How many days a week are spent in the student teaching assignment?
☐1 day ☐3 days ☐5 days
☐2 days ☐4 days ☐Varies

18. Does the student teaching program require exposure to student leadership activities such as the American Industrial Arts Student Association?
☐Yes ☐No

19. Does the program specify the number of hours that the student teacher must spend teaching in the student teaching assignment?
☐Yes ☐No

20. Is student teaching distributed throughout the freshman through senior years of the program?
☐Yes ☐No

21. If the student teaching assignment is not distributed throughout the freshman through senior years, when does it occur?
☐During the 3rd Year ☐Designated as a 5th Year
☐During the 4th Year ☐Other:_____
(specify)

V. SUPERVISING TEACHER (Master Teacher/Public School Supervising Teacher)

22. Who selects or assigns the supervising teacher?
☐Public School Administration ☐Other:_____
☐University Administration (specify)

23. In what form is the public school supervising teacher compensated?
☐Release Time ☐Financial Renumeration to the Supervising Teacher
☐College Credit Hours
☐Career Ladder Steps ☐Financial Renumeration to the Local School System
☐Other:_____
(specify)

24. Who specifies the duties of the public school supervising teacher?
☐Local School System ☐Joint Responsibility of Local School System and College/University
☐College/University

25. How often is the university supervising teacher required to visit the student teacher in the student teaching assignment?
☐Never ☐4 to 6 times
☐1 to 3 times ☐7+ times

Would you like a copy of the findings of this phase of the project?
☐Yes ☐No

APPENDIX D

Assessment Instrument
of
Model Industrial Technology Field Experience Programs
(Final Draft)

Program Identification Number: ☐

INSTRUMENT #1: ASSESSMENT OF MODEL FIELD EXPERIENCE PROGRAMS

INSTRUCTIONS: Please read each of the following items carefully. Respond by placing a check mark (✓) in the appropriate box; some responses may require you to write in a brief phrase. Try to respond to all items. Your time and effort with this instrument is greatly appreciated.

I Demographics: Professional

1. What is your professional capacity?
   ☐ administrator ☐ faculty ☐ other _____ (specify)

2. Do you deal with student teachers in your professional capacity?
   ☐ yes ☐ no

3. Characterize your responsibilities with the student teacher program (check all that apply):
   ☐ administration
   ☐ direct supervision
   ☐ other _____ (specify)

4. Indicate the highest degree you have earned:
   ☐ bachelor ☐ master ☐ doctor

II Demographics: Institutional

5. Indicate the type of institution:
   ☐ college ☐ university

6. What is the enrollment of your institution?
   ☐ less than 5000
   ☐ 5000 to 15000
   ☐ 15000 to 25000
   ☐ 25000 to 35000
   ☐ 35000+

7. Characterize the institution's environment:
   ☐ urban ☐ rural ☐ suburban

8. How many students, seeking teacher certification, are enrolled as majors in the industrial arts or industrial technology program?
   ☐ less than 25
   ☐ 25 to 50
   ☐ 51 to 100
   ☐ 100+

III Academic Requirements

9. Indicate if credit hours are semester or quarter:
   ☐ semester ☐ quarter

10. Specify the total number of credit hours required for the undergraduate teaching major in industrial arts: ☐

11. How many hours of education classes (not counting student teaching) are required in the professional sequence for teaching majors?
   ☐ 0 to 9
   ☐ 10 to 15
   ☐ 16 to 21
   ☐ 22+

IV Student Teaching Assignment

12. Do students have input into their placement in student teaching?
☐yes ☐no

13. Are students given a choice of a rural, urban, or suburban setting?
☐yes ☐no

14. Are student teachers exposed to more than one type of teaching environment (i.e., rural, urban, suburban) in the assignment?
☐yes ☐no

15. What is the total number of weeks spent in the assignment?
☐2 to 4 weeks ☐11 to 13 weeks
☐5 to 7 weeks ☐14 to 18 weeks
☐8 to 10 weeks ☐18+ weeks

16. How many hours a day are spent in the student teaching assignment?
☐1 to 3 hours ☐7 to 8 hours
☐4 to 6 hours

17. How many days a week are spent in the student teaching assignment?
☐1 day ☐4 days
☐2 days ☐5 days
☐3 days ☐varies

18. Does your program specify the number of hours that the student teacher must spend teaching in the assignment?
☐yes ☐no

19. Is the student teaching assignment distributed throughout the years of the academic program?
☐yes ☐no

20. If the student teaching assignment is not distributed, when does it occur?
☐end of the 3rd year ☐other_____
☐end of the 4th year (specify)

21. Is student teaching designated as a 5th year?
☐yes ☐no

V Supervising Teacher (master teacher or public school supervisor)

22. In what form is the public school supervising teacher compensated?
☐financial renumeration ☐release time
☐career ladder steps ☐other _____
☐college credit hours (specify)

23. Does the university specify the duties of the public school supervising teacher?
☐yes ☐no

24. How often does the university supervising teacher visit the public school supervising teacher?
☐never ☐4 to 6 times
☐1 to 3 times ☐7+times

APPENDIX E

Fifteen Texas Schools with Industrial Technology Teacher Preparation Programs

Abilene Christian University
Industrial Education Department
Abilene, TX

East Texas State University
College of Business and Technology
Department of Industry and Technology
Commerce, TX

North Texas State University
College of Education
Industrial Technology
Denton, TX

Prairie View A&M University
College of Industrial Education & Technology
Industrial Education Department
Prairie View, TX

Sam Houston State University
College of Education and Applied Science
Industrial Technology Department
Huntsville, TX

Southwest Texas State University
School of Applied Arts & Technology
Department of Technology
San Marcos, TX

Southwestern Adventist College
Industrial Education Department
Keene, TX

Sul Ross State University
Divsion of Teacher Education
Industrial Arts Department
Alpine, TX

Tarleton State University
Department of Industrial Education & Technology
Industrial Education
Stephenville, TX

Texas A&M University
College of Education
Department of Industrial, Vocational,
and Technology Education
College Station, TX

Texas A&I University
School of Education
Industrial Arts Department
Kingsville, TX

Texas Southern University
School of Technology
Department of Industrial Education &
Industrial Technology
Houston, TX

The University of Texas at Tyler
School of Education and Psychology
Department of Technology
Tyler, TX

University of Houston
College of Technology
Department of Technical Education
Houston, TX

West Texas State University
College of Education
Department of Industry and Technology
Canyon, TX

APPENDIX F

Identified Model Programs Throughout the United States

ALABAMA

Alabama A. & M. University
Department of Industrial Education and Technology
Normal, AL

Auburn University
Vocational and Adult Education Department
Auburn, AL

Tuskegee Institute
Vocational and Technical Education
Tuskegee Institute, AL

ARIZONA

Arizona State University
Division of Technology
Tempe, AZ

Northern Arizona University
College of Design and Technology
Flagstaff, AZ

CALIFORNIA

California State University, Long Beach
Industrial Education Department
Long Beach, CA

California State University, Los Angeles
Industrial Studies Department
Los Angeles, CA

CONNECTICUT

Central Connecticut State University
Industrial Arts, Vocational and Technology Education
Department
New Britain, CO

GEORGIA

Berry College
Department of Industrial Education and Technology
Mt.Berry, GA

KENTUCKY

Eastern Kentucky University
Industrial Education and Technology Department
Richmond, KY

LOUISIANA

Louisiana State University
Industrial and Technical Education Department
Baton Rouge, LA

Northwestern State University
Department of Industrial Education and Technology
Natchitoches, LA

Southeastern Louisiana University
Department of Industrial Technology
Hammond, LA

MAINE

University of Southern Maine
Industrial Education and Technology
Gorham, ME

MARYLAND

University of Maryland
Industrial, Technological and Occupational Education
College Park, MD

University of Marland-Eastern Shore
Department of Industrial Education and Technology
Princess Anne, MD

MICHIGAN

Eastern Michigan University
Department of Business & Industrial Education
Ypsilanti, MI

Western Michigan University
Department of Engineering Technology
Kalamazoo, MI

MINNESOTA

Bemidji State University
Industrial Technology and Arts Department
Bemidji, MN

Mankato State University
Industrial Technical Studies
Mankato, MN

Moorhead State University
Industrial Education
Moorhead, MN

St. Cloud State University
Industrial Education
St. Cloud, MN

University of Minnesota, Duluth
Industrial Technical Studies
Duluth, MN

University of Minnesota
Division of Industrial Education
St. Paul, MN

Winona State University
Industrial Education Department
Winona, MN

MISSISSIPPI

Mississippi State University
Vocational Education & Technology Department
Mississippi State, MS

University of Southern Mississippi
Industrial and Vocational Education Department
Hattiesburg, MS

MISSOURI

Central Missouri State University
Industrial Arts & Technology
Warrensburg, MO

Northeast Missouri State University
Division of Practical Arts
Kirksville, MO

Southwest Missouri State University
Department of Industrial Technology
Springfield, MO

MONTANA

Montana State University
Industrial Education
Bozeman, MT

NEBRASKA

Chadron State College
Department of Industrial Education
Chadron, NE

Kearney State College
Center for Vocational and Technical Education
Kearney, NE

Kearney State University
Department of Industrial Education
Kearney, NE

NEW MEXICO

University of New Mexico
Industrial Education
Albuquerque, NM

NEW YORK

New York University Washington Square
Department of Technology and Industrial Education
New York, NY

State University College at Buffalo
Industrial Arts and Vocational Education
Buffalo, NY

State University College at Oswego
Department of Technology
Oswego, NY

The City University of New York
Industrial Education Department
New York, NY

NORTH DATKOTA

University of North Dakota
Department of Industrial Technology
Grand Forks, ND

Valley City State College
Department of Industrial Technology
Valley City, ND

OHIO

The Ohio State University
Industrial Technology Education
Columbus, OH

OREGON

Oregon State University
Industrial Education
Corvallis, OR

PENNSYLVANIA

California University of Pennsylvania
Department of Industrial Arts and Technology
California, PA

Millersville University of Pennsylvania
Department of Industrial Arts Education
Millersville, PA

RHODE ISLAND

Rhode Island College
Department of Industrial Education and Technology
Providence, RI

SOUTH CAROLINA
Clemson University
Department of Industrial Education
Clemson, SC

SOUTH DAKOTA
Black Hills State College
Division of Industrial Arts
Spearfish, SD

Northern State College
Industrial Technologies
Aberdeen, SD

TENNESSEE
Tennessee Technological University
Industrial Arts Education
Cookeville, TN

The University of Tennessee
Department of Vocational-Technical Education
Knoxville, TN

TEXAS
North Texas State University
Division of Industrial Technology
Denton, TX

Texas A&M University
Department of Industrial, Vocational
and Technical Education
College Station, TX

The University of Texas at Tyler
Department of Technology
Tyler, TX

VIRGINIA
Old Dominion University
Vocational and Technical Education Department
Norfolk, VA

Virginia Polytechnic Institute and State University
Industrial Arts Education
Blacksburg, VA

WASHINGTON
Washington State University
Industrial Technology
Pullman, WA

WISCONSIN

University of Wisconsin-Platteville
Department of Industrial Studies
Platteville, WI

University of Wisconsin-Stout
School of Industry and Technology
Menomonie, WI

APPENDIX G

Letter Mailed to
State Department of Education
Industrial Technology Directors
(or their equivalent)

NORTH TEXAS STATE UNIVERSITY
P.O. Box 13857
Denton, Texas 76203-3857

Division of Industrial Technology

September 13, 1984

Dear

Faculty in The Division of Industrial Technology at North Texas State University are currently involved in a study of student teaching experiences of industrial arts majors in the State of Texas and the Nation. The study, funded by the Texas Education Agency (TEA), will culminate in the development of a Guide Book for implementation of model field experiences in industrial arts teacher education programs throughout Texas. Critical to the development of that Guide Book is the identification of model industrial arts teacher education programs across the nation.

We would appreciate your assistance in identifying those programs in your state that you would consider to be model or outstanding. Would you please take a few minutes to identify up to three such programs on the enclosed form? Indicate the names and addresses of the administrators of those programs, and, if possible, a telephone number. A postage paid return envelope is provided for your convenience.

Thank you for your time and effort with regard to this study.

Sincerely,

Phillip D. Foster
Project Co-Director

Michael R. Kozak
Project Co-Director

College of Education • AC 817/565-2022

APPENDIX H

Delphi Questionnaire
First Round

NORTH TEXAS STATE UNIVERSITY
P.O. Box 13857
DENTON, TEXAS 76203-3857

DIVISION OF INDUSTRIAL TECHNOLOGY

January 14, 1985

Thank you very much for consenting to participate on the delphi panel of our Texas Education Agency (TEA) funded project!

As per our December 27 communication, this mailing contains instructions for the first delphi round and the first delphi questionnaire. In this round, we are requesting you to submit up to ten statements which you feel characterize a model or exemplary field experience (student teaching) program in industrial arts. The enclosed instruction sheet will provide you with further information regarding your input for the first questionnaire.

Also enclosed is a postage paid return envelope for your convenience. We kindly ask that you return the first questionnaire on or before Friday, February 15. This will greatly facilitate completion of the project in a timely manner.

Our thanks for your professional contribution!

Sincerely,

Phillip R. Foster
Project Co-Director

Michael R. Kozak
Project Co-Director

COLLEGE OF EDUCATION • AC 817/565-2022

Instructions for the First Delphi Round

The statements which appear below are "seed" items to stimulate your thinking with regard to generating statements for the first delphi round. They are not intended to limit or channel your response to the first questionnaire; they merely provide an idea of possible types of statements which may be suitable. Please review them prior to responding to the first delphi questionnaire.

As further "food for thought", you may wish to propose statements that address areas such as: curriculum, assessment/evaluation, field experience (student teaching), responsibilities of the student teacher, responsibilities of the classroom supervising teacher, etc. Once again, the following are for information purposes only.

1. *The curriculum provides an opportunity for experience in industry as well as in the public school classroom.*

2. *The field experience (student teaching) is distributed throughout the 4 or 5 years of the degree program.*

3. *The university systematically evaluates the classroom supervising teacher.*

4. *The university specifies the duties of the classroom supervising teacher.*

5. *The student teacher has a choice of environment for the field experience, i.e., rural setting, urban setting, or suburban setting.*

First Delphi Questionnaire

In the spaces below, list up to ten statements which characterize a model or exemplary field experience (student teaching) program in industrial arts

Sample Statement

1. *The field experience is designed to coincide with the beginning and ending dates of the public school semester.*

1. _____

_____

_____

2. _____

_____

_____

3. _____

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4. _____

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5. _____

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6. _____

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7. _____

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8. _____

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9. _____

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10. _____

_____

_____

APPENDIX 1

Delphi Questionnaire
Second Round

NTSU

NORTH TEXAS STATE UNIVERSITY

Division of Industrial Technology

April 2, 1985

Thank you for your prompt return of the first questionnaire. The enclosed materials include most of the statements, submitted by the panelists, characterizing model field experience programs in Industrial Technology Education. In the process of compiling these statements, we have made minor editorial adjustments to avoid duplication in statements that had considerable overlap in substance. We have also simplified some by creating two or more statements from those which contained multiple thoughts. This was done to enable you to respond to a single idea rather than one that was multiple in nature. Minor changes were also made to phrase all statements in a similar format or frame of reference.

Please indicate your judgement of each statement by assigning a numerical value (1 low, 5 high) as to the status of the statement as being characteristic of model field experience programs for Industrial Technology Education. A scale has been enclosed to aid you in making your judgement of each.

As was indicated in our initial communication, your assistance as an expert is needed for three phases in this study. The enclosed questionnaire constitutes the second phase. In our estimation, the third and final questionnaire will be sent to you during the week of April 29.

We have enclosed a postage paid, self-addressed envelope for the return of the second questionnaire. We hope to have your response by April 22.

Sincerely yours,

Phillip R. Foster
Project Co-Director

Michael R. Kozak
Project Co-Director

COLLEGE OF EDUCATION
P.O. BOX 13857 DENTON, TEXAS 76203-3857
AC 817/565-2022

Numerical Scale	
BLANK	NO JUDGEMENT -No knowledge to judge this statement, but the appropriate individual (expert, decision-maker) should be able to provide an evaluation I would respect.
1	DEFINITELY NOT CHARACTERISTIC -Great risk of being wrong. -Worthless as a decision basis. -Decisions based on this would be mostly incorrect.
2	QUESTIONABLY CHARACTERISTIC -Substantial risk of being wrong. -Viable but risky as a decision basis.
3	MODERATELY CHARACTERISTIC -Moderate risk of being wrong. -Viable but risky as a decision basis.
4	GENERALLY CHARACTERISTIC -Some risk of being wrong. -Some incorrect decisions possible however most will be valid. -Viable as a decision basis.
5	HIGHLY CHARACTERISTIC -Low risk of being wrong. -Most decisions made based on this will be correct. -Highly useful as a decision basis.

SECOND QUESTIONNAIRE

Please read and rate the following statements, which have been submitted by the panelists, on the basis of their being characteristic of a model or exemplary field experience (student teaching) program in industrial technology education. Note that each statement is unique in that its meaning is different from the other statements listed. Your rating will be tabulated with that of the other panelists in order to calculate a mean value for each statement.

Sample Statement	Rating
99. Student teachers receive a salary during the field experience.	2

I. University Curriculum	Rating
1. Methods classes, prior to the field experience, should have practicing classroom teachers presenting, not just college/university faculty.	_____
2. University coursework provides an awareness of the direction of curriculum change in the field of industrial technology education.	_____
3. The curriculum stresses the relationship of general education experiences to practical applications in industrial technology education.	_____
4. The university curriculum requires the student to develop in-depth knowledge in a minimum of two technical areas within industrial technology education.	_____
5. University coursework emphasizes competence in planning, organizing and conducting instruction in industrial technology education.	_____
6. The methods classes at the university provide experiences in the development of scope and sequence charts.	_____
7. The curriculum addresses the financial responsibilities (i.e., bookkeeping, fundraising, etc.) associated with managing industrial technology education.	_____

		Rating
8.	The curriculum includes strategies for involving students who do not or can not pay project fees.	_____
9.	University coursework stresses an understanding of the importance of advisory groups as they relate to the total instructional program.	_____
10.	The university provides current training in classroom supervising functions prior to the student teacher's field experience.	_____
11.	The university curriculum is designed to prepare students for experiences in both the middle and high schools.	_____
12.	The curriculum includes how to start and run a student organization and its benefits to the overall industrial technology education program.	_____
13.	University coursework provides instruction in the handling of discipline in the classroom.	_____
14.	The curriculum has provisions for optional field experiences, other than student teaching, such as substitute teaching and work with community youth organizations.	_____
15.	The university curriculum recognizes industrial experience gained during the summer semesters.	_____
16.	Student teachers have the opportunity to engage in the field experience and formal university instruction concurrently.	_____
17.	The university provides follow-up or wrap-up sessions for the student teachers when they secure their first job in the public schools.	_____
II.	University Supervisor	
18.	The university supervisor is a qualified industrial technology teacher educator.	_____
19.	University supervision of the field experience is conducted by subject matter specialists who have at least three years of successful teaching experience.	_____

Rating

20. The university supervisor visits the student teacher at least three times during the field experience. _____

21. The university supervisor visits the student teacher on a regular basis. _____

22. The university supervisor is able to visit the field experience location without prior notification. _____

III. Classroom Supervising Teacher

23. The classroom supervising teacher is interviewed by university faculty before assignments are made. _____

24. The university systematically provides inservice training for the classroom supervising teacher. _____

25. The university provides a basic program for the classroom supervising teachers explaining their role and function when working with student teachers. _____

26. The university specifies the duties of the classroom supervising teacher. _____

27. The classroom supervising teacher has an up-to-date approach to industrial technology education so that the field experience is related to the future, not the past. _____

28. The classroom supervising teacher remains in control of the classroom during the first two thirds of the field experience allowing the student teacher to control the classroom during the final third. _____

29. The supervising teacher's classroom has facilities for observation of the student teacher without being in the same room. _____

30. The evaluation of the field experience is done by the classroom supervising teacher, not by the university supervisor. _____

IV. Student Teacher

31. The industrial technology education department at

Rating

the university determines where student teachers are placed in the field. _____

32. The student teacher is given proper orientation to each field experience. _____

33. The student teacher has a choice of environment (i.e., rural, urban, or suburban setting) for the field experience. _____

34. The student teacher has an opportunity to request the technical area taught at the field experience school. _____

35. The student teacher is informed of all insurances, coverages and protection that have been arranged for him or her. _____

36. The student teacher is aware of the location of resources held for industrial technology education in the school library as well as the reference books kept in the laboratory. _____

37. The student teacher is required to identify, acquire or develop appropriate instructional/ media materials and equipment for various teaching situations prior to completion of the field experience. _____

38. The student teacher has the opportunity to identify curriculum content appropriate to the assignment and to process content in the scope and sequence concept. _____

39. The student teacher observes for the first third of a school semester, assists and tutors during the second third and finally teaches a unit unassisted during the last third. _____

40. The student teacher is required to teach at least one class period for no less than one grading period. _____

41. Student teachers, during the field experience, are required to teach in a minimum of two technical areas within industrial technology education. _____

Rating

42. The student teacher is required to utilize a variety of teaching strategies, i.e., lecture, demonstration, and mediated small and large group activities. _____

43. The student teacher participates in task analysis, task sequencing, task detailing, and development of a lesson plan. _____

44. The student teacher is required to assist the classroom supervising teacher with posters, bulletin boards, models and other instructional aids used in teaching. _____

45. The student teacher is required to develop at least one individualized education program. _____

46. The student teacher assists in the operation of a student organization at the field experience site and attends a student conference. _____

47. The student teacher participates in organizational, developmental, supervisory, and maintenance activities appropriate to the classroom/laboratory setting. _____

48. Student teacher has direct contact with administrators, guidance counselors, and support staff. _____

49. Student teachers are permitted to make direct contact with parents to deal with problems and provide recognition for successfully completed work. _____

50. Student teachers are required to become acquainted with the total program at the school where they teach. _____

51. The student teacher is required to become acquainted with other faculty members by going to the faculty lounge during preparation period and before and after school. _____

52. The student teacher attends extra curricular school activities with the classroom supervising teacher to whom he or she is assigned. _____

Rating

V. Public School Environment

53. The field experience begins early in the teacher education program with structured observations included in formal course work. _____

54. The field experience provides opportunities to observe the entire school day in a realistic manner. _____

55. Field experiences are distributed from the freshman year through the senior year for each student in industrial technology education. _____

56. The field experience is concentrated in the last semester of the student's degree program. _____

57. The field experience is offered after completion of all major field related courses. _____

58. The field experience allows the student teacher to work with specially designated population groups. _____

59. Field experiences should take place at different educational levels (i.e., junior high school, senior high school, middle school, or elementary school). _____

60. The field experience is eighteen weeks in length. _____

61. There exists an up-to-date field experience handbook which provides orientation and criteria for evaluation of the field experience. _____

62. The field experience provides the student teacher with an opportunity to participate in the opening or closing of the secondary school year. _____

63. The sequence of field experiences is developmental and additive. _____

64. The field experience is structured to allow the student teacher to identify and utilize concepts presented in psychology courses and/or methods courses. _____

65. The field experience provides activities that allow the student teacher to identify individual differences in students and develop teaching strategies appropriate to these differences. _____

		Rating
66.	The field experience includes several opportunities to assist in actual grading processes and grading systems.	_____
67.	The field experience includes the management of activity funds for student purchase of projects.	_____
68.	Classroom supervising teachers, student teachers, and university supervisors engage in regularly scheduled seminars which address: (A) review of the progress of student teachers, (B) information critical to the success of student teachers, and (C) professional developments and concerns.	_____
69.	The field experience provides opportunities for the student teacher to observe teachers in other disciplines.	_____
70.	There is an opportunity for a post-field experience seminar for all student teachers to collectively meet and discuss their learning.	_____
71.	The university has a well-established, written evaluation process with which to assess the quality of the student teacher's field experience.	_____
72.	The field experience does not put a financial strain on the student teacher.	_____

APPENDIX J

Delphi Questionnaire
Third Round

NTSU
NORTH TEXAS STATE UNIVERSITY

Division of Industrial Technology

May 8, 1985

Thank you for the prompt return of the second questionnaire. Responses from the panelists have been compiled and a mean rating has been calculated for each statement. Several constructive comments were received suggesting modifications for some statements. While these comments were carefully considered, none could be implemented for fear of changing the original intent of the statement. This would be a violation of the delphi technique.

Enclosed is the third and final questionnaire. We would now like to ask you to re-evaluate your initial rating of each item based on the group mean. Both are provided on the enclosed questionnaire. We have included the rating scale once again to provide some assistance in arriving at a second rating. The intent of the third delphi round is to approach a consensus regarding the characteristics of a model field experience (student teaching) program in industrial arts/technology education. Upon return of the questionnaires, a mean will be recalculated for each statement. Those with means below 4.00 will be eliminated from the study.

Also enclosed is a postage paid envelope for the return of the third questionnaire. As time is of the essence, we ask that you return the questionnaire on or before Wednesday, May 29. We fully understand that this is the busiest time of the year for educators and hope that May 29 is a workable deadline.

We would like to take this opportunity to express our most sincere appreciation for your continued support of this study. Certainly, research of this nature would not be possible without dedicated professionals. Thanks for your valuable time and effort.

The next communication you will receive from us will be the final results of the delphi study. We anticipate this will be sometime during the early summer. Until then, our best wishes for a productive and restful summer.

Sincerely,

Phillip R. Foster
Project Co-Director

Michael R. Kozak
Project Co-Director

COLLEGE OF EDUCATION
P.O. BOX 13857 DENTON, TEXAS 76203-3857
AC 817/565-2022

Numerical Scale	
BLANK	NO JUDGEMENT -No knowledge to judge this statement, but the appropriate individual (expert, decision-maker) should be able to provide an evaluation I would respect.
1	DEFINITELY NOT CHARACTERISTIC -Great risk of being wrong. -Worthless as a decision basis. -Decisions based on this would be mostly incorrect.
2	QUESTIONABLY CHARACTERISTIC -Substantial risk of being wrong. -Viable but risky as a decision basis.
3	MODERATELY CHARACTERISTIC -Moderate risk of being wrong. -Viable but risky as a decision basis.
4	GENERALLY CHARACTERISTIC -Some risk of being wrong. -Some incorrect decisions possible however most will be valid. -Viable as a decision basis.
5	HIGHLY CHARACTERISTIC -Low risk of being wrong. -Most decisions made based on this will be correct. -Highly useful as a decision basis.

THIRD QUESTIONNAIRE

Please read and re-rate the following statements on the basis of their being characteristic of a model or exemplary field experience (student teaching) program in industrial technology/arts education. As an aid in the re-rating process, we have provided your 1st rating as well as the group mean based on the previous round. The numerical rating scale is also included for your convenience. Please return your third questionnaire in the postage paid envelope by Wednesday, May 29.

Sample Statement	Your 1st Rating	Group Mean	Your 2nd Rating
99. Student teachers receive a salary during the field experience.	2	3.69	____

I. University Curriculum	Your 1st Rating	Group Mean	Your 2nd Rating
1. Methods classes, prior to the field experience, should have practicing classroom teachers presenting, not just college/university faculty.	____	3.54	____
2. University coursework provides an awareness of the direction of curriculum change in the field of industrial technology education.	____	4.08	____
3. The curriculum stresses the relationship of general education experiences to practical applications in industrial technology education.	____	3.69	____
4. The university curriculum requires the student to develop in-depth knowledge in a minimum of two technical areas within industrial technology education.	____	3.69	____
5. University coursework emphasizes competence in planning, organizing and conducting instruction in industrial technology education.	____	4.46	____
6. The methods classes at the university provide experiences in the development of scope and sequence charts.	____	3.46	____
7. The curriculum addresses the financial responsibilities (i.e., bookkeeping, fundraising, etc.) associated with managing industrial technology education.	____	4.15	____

		Your 1st Rating	Group Mean	Your 2nd Rating
8.	The curriculum includes strategies for involving students who do not or can not pay project fees.	_____	3.23	_____
9.	University coursework stresses an understanding of the importance of advisory groups as they relate to the total instructional program.	_____	3.31	_____
10.	The university provides current training in classroom supervising functions prior to the student teacher's field experience.	_____	4.00	_____
11.	The university curriculum is designed to prepare students for experiences in both the middle and high schools.	_____	4.08	_____
12.	The curriculum includes how to start and run a student organization and its benefits to the overall industrial technology education program.	_____	3.85	_____
13.	University coursework provides instruction in the handling of discipline in the classroom.	_____	4.31	_____
14.	The curriculum has provisions for optional field experiences, other than student teaching, such as substitute teaching and work with community youth organizations.	_____	2.77	_____
15.	The university curriculum recognizes industrial experience gained during the summer semesters.	_____	2.83	_____
16.	Student teachers have the opportunity to engage in the field experience and formal university instruction concurrently.	_____	3.62	_____
17.	The university provides follow-up or wrap-up sessions for the student teachers when they secure their first job in the public schools.	_____	3.25	_____
II.	University Supervisor			
18.	The university supervisor is a qualified industrial technology teacher educator.	_____	4.69	_____
19.	University supervision of the field experience is conducted by subject matter specialists who have at least three years of successful teaching experience.	_____	4.69	_____

	Your 1st Rating	Group Mean	Your 2nd Rating
20. The university supervisor visits the student teacher at least three times during the field experience.	_____	4.69	_____
21. The university supervisor visits the student teacher on a regular basis.	_____	3.92	_____
22. The university supervisor is able to visit the field experience location without prior notification.	_____	4.38	_____
III. Classroom Supervising Teacher			
23. The classroom supervising teacher is interviewed by university faculty before assignments are made.	_____	4.25	_____
24. The university systematically provides inservice training for the classroom supervising teacher.	_____	3.83	_____
25. The university provides a basic program for the classroom supervising teachers explaining their role and function when working with student teachers.	_____	3.83	_____
26. The university specifies the duties of the classroom supervising teacher.	_____	4.08	_____
27. The classroom supervising teacher has an up-to-date approach to industrial technology education so that the field experience is related to the future, not the past.	_____	4.33	_____
28. The classroom supervising teacher remains in control of the classroom during the first two thirds of the field experience allowing the student teacher to control the classroom during the final third.	_____	3.15	_____
29. The supervising teacher's classroom has facilities for observation of the student teacher without being in the same room.	_____	1.91	_____
30. The evaluation of the field experience is done by the classroom supervising teacher, not by the university supervisor.	_____	2.38	_____
IV. Student Teacher			
31. The industrial technology education department at			

	Your 1st Rating	Group Mean	Your 2nd Rating
the university determines where student teachers are placed in the field.	_____	4.46	_____
32. The student teacher is given proper orientation to each field experience.	_____	4.69	_____
33. The student teacher has a choice of environment (i.e., rural, urban, or suburban setting) for the field experience.	_____	3.77	_____
34. The student teacher has an opportunity to request the technical area taught at the field experience school.	_____	4.00	_____
35. The student teacher is informed of all insurances, coverages and protection that have been arranged for him or her.	_____	4.46	_____
36. The student teacher is aware of the location of resources held for industrial technology education in the school library as well as the reference books kept in the laboratory.	_____	4.38	_____
37. The student teacher is required to identify, acquire or develop appropriate instructional/ media materials and equipment for various teaching situations prior to completion of the field experience.	_____	4.15	_____
38. The student teacher has the opportunity to identify curriculum content appropriate to the assignment and to process content in the scope and sequence concept.	_____	3.73	_____
39. The student teacher observes for the first third of a school semester, assists and tutors during the second third and finally teaches a unit unassisted during the last third.	_____	3.15	_____
40. The student teacher is required to teach at least one class period for no less than one grading period.	_____	3.23	_____
41. Student teachers, during the field experience, are required to teach in a minimum of two technical areas within industrial technology education.	_____	3.46	_____

	Your 1st Rating	Group Mean	Your 2nd Rating
42. The student teacher is required to utilize a variety of teaching strategies, i.e., lecture, demonstration, and mediated small and large group activities.	_____	4.31	_____
43. The student teacher participates in task analysis, task sequencing, task detailing, and development of a lesson plan.	_____	4.31	_____
44. The student teacher is required to assist the classroom supervising teacher with posters, bulletin boards, models and other instructional aids used in teaching.	_____	4.38	_____
45. The student teacher is required to develop at least one individualized education program.	_____	3.85	_____
46. The student teacher assists in the operation of a student organization at the field experience site and attends a student conference.	_____	3.85	_____
47. The student teacher participates in organizational, developmental, supervisory, and maintenance activities appropriate to the classroom/laboratory setting.	_____	4.46	_____
48. Student teacher has direct contact with administrators, guidance counselors, and support staff.	_____	4.38	_____
49. Student teachers are permitted to make direct contact with parents to deal with problems and provide recognition for successfully completed work.	_____	3.33	_____
50. Student teachers are required to become acquainted with the total program at the school where they teach.	_____	4.08	_____
51. The student teacher is required to become acquainted with other faculty members by going to the faculty lounge during preparation period and before and after school.	_____	3.54	_____
52. The student teacher attends extra curricular school activities with the classroom supervising teacher to whom he or she is assigned.	_____	4.23	_____

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V. Public School Environment	Your 1st Rating	Group Mean	Your 2nd Rating
53. The field experience begins early in the teacher education program with structured observations included in formal course work.	_____	3.75	_____
54. The field experience provides opportunities to observe the entire school day in a realistic manner.	_____	4.77	_____
55. Field experiences are distributed from the freshman year through the senior year for each student in industrial technology education.	_____	2.75	_____
56. The field experience is concentrated in the last semester of the student's degree program.	_____	4.15	_____
57. The field experience is offered after completion of all major field related courses.	_____	3.85	_____
58. The field experience allows the student teacher to work with specially designated population groups.	_____	3.23	_____
59. Field experiences should take place at different educational levels (i.e., junior high school, senior high school, middle school, or elementary school).	_____	3.17	_____
60. The field experience is eighteen weeks in length.	_____	3.17	_____
61. There exists an up-to-date field experience handbook which provides orientation and criteria for evaluation of the field experience.	_____	4.38	_____
62. The field experience provides the student teacher with an opportunity to participate in the opening or closing of the secondary school year.	_____	3.25	_____
63. The sequence of field experiences is developmental and additive.	_____	3.77	_____
64. The field experience is structured to allow the student teacher to identify and utilize concepts presented in psychology courses and/or methods courses.	_____	4.23	_____
65. The field experience provides activities that allow the student teacher to identify individual differences in students and develop teaching strategies appropriate to these differences.	_____	4.23	_____

		Your 1st Rating	Group Mean	Your 2nd Rating
66.	The field experience includes several opportunities to assist in actual grading processes and grading systems.	_____	4.46	_____
67.	The field experience includes the management of activity funds for student purchase of projects.	_____	3.38	_____
68.	Classroom supervising teachers, student teachers, and university supervisors engage in regularly scheduled seminars which address: (A) review of the progress of student teachers, (B) information critical to the success of student teachers, and (C) professional developments and concerns.	_____	4.00	_____
69.	The field experience provides opportunities for the student teacher to observe teachers in other disciplines.	_____	3.75	_____
70.	There is an opportunity for a post-field experience seminar for all student teachers to collectively meet and discuss their learning.	_____	3.92	_____
71.	The university has a well-established, written evaluation process with which to assess the quality of the student teacher's field experience.	_____	4.38	_____
72.	The field experience does not put a financial strain on the student teacher.	_____	3.75	_____

APPENDIX K

Quarterly Reports

NORTH TEXAS STATE UNIVERSITY
P.O. Box 13857
Denton, Texas 76203-3857

Division of Industrial Technology

October 2, 1984

Dr. Paul A. Myers
Research Coordinating Unit
201 East 11th Street
Austin, TX 78701

Dear Dr. Myers:

This is the first of a series of four quarterly reports to the Texas Education Agency concerning the contract #74946 ("Assessment of Industrial Arts Field Experiences"), awarded to the Division of Industrial Technology at North Texas State University.

As of Friday, September 28, 1984, the following have occurred:

1) Seven of the nine advisory committee members have been identified and their participation secured:

   a) Mr. Frank Keeney, Graphic Arts, Inc. (Visual Communications Industry)

   b) Mr. Kenneth Sloan, Applied Data Research, Inc. (Computer Industry)

   c) Mr. Lionel Sweeney, Texas Instruments, (Production Manufacturing Industry)

   d) Mr. Ed Faulkner, H.C.B. Contractors, (Production Construction Industry)

2) Education Representatives:

   a) Dr. Tommy Barker, Tarleton State University, (TCIATE)

   b) Mr. Lloyd Carter, Ft. Worth I.S.D., (TCIAS)

   c) Mr. Ralph Schultz, Midland I.S.D., (TIAA)

3) State department of education level directors of industrial arts, or their equivalent have been

College of Education • AC 817/565-2022

asked to submit up to three teacher preparation programs which they believe to be model. This information is still coming in.

4) Two computer searches were conducted in September. The first was used to identify extant field experience assessment instruments. The instruments found were not usable in their present form although they did contain many suitable features. We are now in the process of generating a modified instrument which meets the needs of the project.

   The second computer search rendered items which characterized field experiences. These will be used to generate statements for the Delphi Phase of the study.

5) Research Assistant, Gene Price, and Secretary, Millicent D. Jones, employed 9/28/84.

Sincerely,

Michael R. Kozak
Project Co-Director

Phillip R. Foster
Project Co-Director

mdj

NORTH TEXAS STATE UNIVERSITY
P.O. Box 13857
DENTON, TEXAS 76203-3857

DIVISION OF INDUSTRIAL TECHNOLOGY

January 14, 1985

Dr. Mark Butler
Research Coordinating Unit
201 East 11th Street
Austin, Tx. 78701

Dear Dr. Butler:

This is the second in a series of four quarterly reports to the Texas Education Agency concerning contract #74946 (Assessment of Industrial Arts Field Experiences), awarded to the Division of Industrial Technology at North Texas State University.

This report covers the period from September 30, 1984, and includes those activities designated under Phase II of the project.

(1) An assessment instrument has been developed for the project. The instrument reflects data secured in the two computer searches conducted in September.

(2) The assessment instrument has been sent to Texas Industrial Arts Teacher Preparation Institutions .

(3) The Advisory Committee met on November 29, 1984. The committee reviewed the assessment instrument and the initial seed items for the Delphi Panel.

(4) Model programs in other states have been identified and contacted. Each of those programs has received the assessment instrument. At this point we have received 52 reponses.

(5) Millicent Jones, grant secretary, has withdrawn from school. We anticipate fiiling that position as quickly as possible.

Sincerely,

Michael R. Kozak
Project Co-Director

Phillip R. Foster
Project Co-Director

COLLEGE OF EDUCATION • AC 817/565-2022

NTSU
NORTH TEXAS STATE UNIVERSITY

Division of Industrial Technology

March 26,1985

Dr. Mark Butler
Research Coordinating Unit
201 East 11th Street
Austin, Texas 78701

Dear Dr. Butler:

This is the third in a series of four quarterly reports to the Texas Education Agency concerning contract #74946 (Assessment of Industrial Arts Field Experiences), awarded to the Division of Industrial Technology at North Texas State University.

This report covers the period from January 14,1985, and includes those activities designated under Phase III of the project.

(1) The first round of the Delphi Panel has been completed. (Copy of the Delphi questionnaire is enclosed.)

(2) The second round of the Delphi Panel is scheduled to be mailed the week of March 25th. (Copy of Delphi questionnaire is enclosed.)

(3) The Assessment of Field Experience Programs instrument has been returned. Sixty-nine assessment intruments were mailed and sixty-five have been returned. (Return rate of 94%)At the present time we are collating data.

(4) Shelley McAvoy was hired on January 25, 1985, as grant secretary.

Sincerely,

Michael R. Kozak
Project Co-Director

Phillip R. Foster
Project Co-Director

COLLEGE OF EDUCATION
P O BOX 13857 DENTON, TEXAS 76203-3857

APPENDIX L

Various Communication

NORTH TEXAS STATE UNIVERSITY
P.O. Box 13857
DENTON, TEXAS 76203-3857

DIVISION OF INDUSTRIAL TECHNOLOGY

August 16, 1984

Mr. Lloyd Carter
Program Director
Vocational Industrial Arts
3210 West Lancaster
Fort Worth, TX 76107

Dear Mr. Carter:

Thank you for consenting to participate on the advisory committee for our project entitled "Assessment of Industrial Arts Field Experiences". This project has been contracted to Dr. Michael R. Kozak and myself here at North Texas State University through the Texas Education Agency (TEA). The primary intent of the project is to develop guidelines with which to improve the industrial arts teacher education program in Texas. TEA has requested that the project advisory committee be composed of industry representatives and educational representatives. Your participation will add a substantial degree of realism to our activities. We are pleased to have you on the committee.

As per our recent telephone conversation, advisory committee activities will consist of 2 or 3 brief meetings on the NTSU campus. We will arrange these meetings to conform to the varied schedules of the participants.

We will be in contact with you in the near future regarding scheduling of the initial meeting. Once again, our thanks for your support.

Sincerely,

Phillip R. Foster
Assistant Professor

bnc

COLLEGE OF EDUCATION • AC 817/565-2022

NORTH TEXAS STATE UNIVERSITY
P.O. Box 13857
DENTON, TEXAS 76203-3857

DIVISION OF INDUSTRIAL TECHNOLOGY

November 9, 1984

Dear Mr.

Thank you very much for consenting to serve on the advisory committee for our project entitled "Assessment of Industrial Arts Field Experiences". As per our recent telephone conversation, the first meeting will be on Thursday, November 29 from 3:00-5:00 pm in room #215 of the Industrial Technology (former Industrial Arts) Building, North Texas State University. Enclosed is an agenda, a parking permit, a map of the campus, and a project narrative. If you have any questions regarding this initial meeting, feel free to call us at (817) 565-2022.

Sincerely,

Michael R. Kozak
Project Co-Director

Phillip R. Foster
Project Co-Director

Enclosures

mdj

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COLLEGE OF EDUCATION • AC 817/565-2022

NORTH TEXAS STATE UNIVERSITY
P.O. Box 13857
DENTON, TEXAS 76203-3857

DIVISION OF INDUSTRIAL TECHNOLOGY

December 11, 1984

We are currently involved with a Texas Education Agency sponsored study of model teacher preparation programs in industrial technology. The study will culminate in the development of a guide book for college and university industrial technology programs in the state of Texas.

Your state coordinating office has identified your program as a model teacher preparation program in the field. Thus, we would greatly appreciate your responses to the enclosed questionnaire which will assist us in the preparation of the guide book. A return envelope is included for your convenience. We would like to receive your responses on or before Monday, January 14, 1985.

Thank you for your prompt and courteous response.

Sincerely yours,

Phillip R. Foster
Project Co-Director

Michael R. Kozak
Project Co-Director

Enclosures

mdj

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APPENDIX M

Letter From Dr. James L. Poirot
(Material Validation and Review Committee Member)

NTSU

NORTH TEXAS STATE UNIVERSITY

Department of Computer Science

July 19, 1985

Dr. Michael Kozak
Dr. Phillip Foster
Division of Industrial Technology
North Texas State University

Dear Mike and Phil:

I have reviewed the Guidebook for Industrial Technology Teacher Preparation and was impressed with the depth of coverage of a critically important topic. The information provided for both state and national programs should be of great interest to all those involved in the training of industrial technology teachers.

I have found the guidebook to be easily read and quite understandable. The tabular layout of information is well done, and I found specific data items to be easily found.

The only reservations I have are not due to your compilation of information, but to the existent shortage of computer emphasis on state and national levels. Even though computer applications are mentioned and seem to play a role in training programs, I feel that training in this topic should hold a more prominent role. With the changes experienced in industrial technology over the past few years due to computer utilization, I would suspect that future teachers should be better prepared in this area.

Again, I am impressed with your work and complement you on the Guide. I know it will be of great help to many.

Sincerely,

Dr. J. L. Poirot
Chairman
Computer Science Department

JLP:jg

P.O. BOX 13886 DENTON, TEXAS 76203-3886
(817) 565-2767